| | Ala | Trp | Lys | Met 500 | Leu | Gly | Leu | Phe | Arg 505 | Lys | His | Asn | Lys | Ile 510 | Pro | Arg |
|-----|--------------------------------|--------------------------------|---------------------------------|---|--|--|--|--|--|------------------------------------|----------------------------------|------------------------|-------------------------|-------------------------|---------------------------|--------------------------------|
| 5 | Ser | Glu | Leu 515 | Leu | Asn | Glu | Leu | Met 520 | Asp | Ser | Ala | Lys | Val 525 | Ser | Aan | Ser |
| | Pro | Ser 530 | Gln | Ala | He | Glu | Val 535 | Val | Glu | Leu | Ala | Ser 540 | Ala | Phe | Ser | Leu |
| 10 | Pro 545 | Ile | Cys | Glu | Gly | Leu 550 | Thr | Gln | Arg | Val | Met 555 | Ser | Asp | Fhe | Ala | 11e 560 |
| 15 | Asn | Gln | Glu | Gln | Lys 565 | Glu | Ala | Leu | Ser | Asn 570 | Leu | Thr | Ala | Leu | Thr 575 | Ser |
| 1.) | Asp | Ser | Asp | Thr 580 | qaA | Ser | Ser | Ser | Asp 585 | Ser | Asp | Ser | Asp | Thr 590 | Ser | Glu |
| 20 | GIY | Lys | | | | | | | | | | | | | | |
| | (2) | TAITS | ODMA | TI ON | EOD | SEO. | ו תד | NIO . | 757. | | | | | | | |
| 25 | (2) | 1141 | ORIM | TION | ron | ೨೬೪ | 10 | | | | | | | | | |
| | | | (i) | SEQU | | | | | | | ds | | | | | |
| 30 | | | | ((| A) L B) T D) T | ENGT YPE: OPOL | H: l ami OGY: | 31 a no a lin | mino .cid .ear | aci | | : 25 | 3: | | | |
| 30 | Met 1 | Lys | (xi) | ÇEZ) | A) L B) T D) T UENC | ENGT YPE: OPOL E DE | H: l ami OGY: SCRI | 31 a no a lin PTIO | mino cid ear N: S | aci EQ I | D NO | | | Pro | Leu 15 | Leu |
| 30 | 1 | | (xi) Leu | SEQ Asn | A) L B) T D) T UENC Leu 5 | ENGT YPE: OPOL E DE Cys | H: l ami OGY: SCRI Ile | .31 a .no a lir PTIO PTO | mino cid ear N: S Asn | aci EQ I Trp 10 | D NO Ala | Arg | Cys | Pro Asp 30 | 15 | |
| 35 | l Leu | Leu | (xi) Leu Phe | () () () () () () () () () () () () () (| A) L B) T D) T UENC Leu 5 | ENGT YPE: OPOL E DE Cys Leu | H: l ami OGY: SCRI Ile Leu | 31 a.no a lir PTIO PTO | mino cid ear N: S Asn Phe 25 | eq I Trp 10 | D NO Ala Gly | Arg Glu | Cys Asp | Asp | 15 Asp | Pro |
| | l Leu Leu | Leu Lys | (xi) Leu Phe Ala 35 | SEQ Asn Pro 20 | A) L B) T D) T UENC Leu 5 Gln Ala | ENGT YPE: YPE: OPOL E DE Cys Leu | H: l ami OGY: SCRI Ile Leu Asn | 31 and an | mino cid ear N: S Asn Phe 25 Val | EQ I Trp 10 Gln Glu | D NO Ala Gly Ala | Arg Glu Val | Cys Asp Pro 45 | Asp 30 | 15 Asp Gly | Pro |
| 35 | Leu Leu Lys | Leu Lys Ala 50 | (xi) Leu Phe Ala 35 | () () () () () () () () () () () () () (| A) L B) T D) T UENC Leu 5 Gln Ala | ENGT YPE: YPE: YPOL E DE Cys Leu Ala | H: 1 ami Ami OGY: SCRI Ile Leu Asn Val 55 | .31 a.no a lin PTIO Pro Pro Leu 40 | mino cid ear N: S Asn Phe 25 Val | EQ I Trp 10 Gln Glu Leu | D NO Ala Gly Ala Val | Arg Glu Val Arg 60 | Asp Pro 45 | Asp 30 Trp | Asp Gly Leu | Pro Ile |
| 35 | Leu Leu Lys Ser 65 | Leu Lys Ala 50 Cys | (xi) Leu Phe Ala 35 | SEQ Asn Pro 20 | A) L B) T B) T D) T UENC Leu 5 Gln Ala Phe | ENGT YPE:: OPOL E DE Cys Leu Ala Gln Arg 70 | H: 1 ami OGY: SCRI Ile Leu Asn Val 55 | 31 a no a lin a li | mino cid lear N: S Asn Phe 25 Val | EQ I Trp 10 Gln Glu Leu | D NO Ala Gly Ala Val Leu 75 | Arg Glu Val Arg 60 | Asp Pro 45 Val | Asp 30 Trp Gln | Asp Gly Leu Gln | Pro Ile Glr Ser 80 |
| 35 | Leu Lys Ser 65 | Leu Lys Ala 50 Cyn | (xi) Leu Phe Ala 35 Pro | SEQ Asn Pro 20 Lys Ser Pro 1 Ile | A) L B) T | ENGT YPE:: OPOL E DE Cys Leu Ala Gln 70 | H: 1 ami Ami OGY: SCRI Ile Leu Asn Val 55 | 31 a ano a lin pTIO Pro Pro 40 Thr | mino cid lear N: S Asn Phe 25 Val Cys | EQ I Trp 10 Gln Glu Leu Leu 90 Met | D NO Ala Gly Ala Val Leu 75 | Arg Glu Val Arg 60 Ala | Cys Asp Pro 45 Val Thr | Asp 30 Trp Gln | 15 Asp Gly Leu Gln Pro 95 | Pro Ile Glr Ser 80 |

| | (2) | INF | RMAT | LICN | FOR | SEQ | ID 1 | 10: 2 | 254: | | | | | | | | |
|----|-----------|-------------------|-----------|------------|----------------------|-----------------------|----------------------|---------------------|-------------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|--|
| 5 | | | | (| A) L B) T D) T | ENGT: YPE: OPOL | H: 2 ami: OGY: | l am no a lin | ino cid ear | acid | | : 254 | 4 : | | | | |
| 10 | Met 1 | Arg | Tyr | His | Ala 5 | Gln | Leu | Ile | Phe | Cys 10 | Ile | Phe | Cys | Xaa | Phe 15 | Val | |
| | Phe | Val | Xaa | Lys 20 | Xaa | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| | (2) | INF | RMAT | LICM | FCR | SEQ | ID I | VO: 2 | 255: | | | | | | | | |
| 20 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 3 ami OGY: | l am no a lin | ino cid ear | acid | | : 25! | 5 : | | | | |
| 25 | Met 1 | Asn | Asp | Asn | Ser 5 | Pro | Asn | His | Ser | Ser 10 | Ser | Тут | Leu | Pro | Leu 15 | Pro | |
| 30 | Leu | Thr | Ile | Val 20 | Ile | Leu | Gln | Thr | Gly 25 | His | Lys | Gly | Thr | Leu 30 | Xaa | | |
| | (2) | INF | ORMA! | rion | FOR | SEQ | ID 1 | | 256: | | | | | | | | |
| 35 | | | (i) | (| | ENGT YPE : | H: 2 ami | 19 a no a | mino cid | | ds | | | | | | |
| 40 | | | (xi) | SEQ | UENC: | E DE | SCRI | PTIO | N: S | EQ II | D NO | : 25 | 6: | | | | |
| | Met 1 | His | Phe | Leu | Phe 5 | Arg | Phe | Ile | Val | Phe 10 | Phe | Tyr | Leu | Trp | Gly 15 | Leu | |
| 45 | Phe | Thr | Ala | Gln 20 | Arg | Gln | Lys | Lys | Glu 25 | Glu | Ser | Thr | Glu | Glu 30 | Val | Lys | |
| | Ile | Glu | Val 35 | Leu | His | Arg | Pro | Glu 40 | Asn | Cys | Ser | Lys | Thr 45 | Ser | Lys | Lys | |
| 50 | Gly | A sp 50 | Leu | Leu | Asn | Ala | His 55 | Tyr | Asp | Gly | Tyr | Leu 60 | Ala | Lys | Asp | Gly | |
| 55 | Ser 65 | Lys | Phe | Тут | Cys | Ser 70 | Arg | Thr | Gln | Asn | Glu 75 | Gly | His | Pro | Lys | Trp 80 | |
| | Phe | Val | Leu | Gly | Val 85 | Gly | Gln | Val | Ile | Lys 90 | Gly | Leu | Asp | Ile | Ala 95 | Met | |
| 60 | Thr | Asp | Met | Cys 100 | Pro | Gly | Glu | Lys | Arg 105 | Lys | Val | Val | Ile | Pro | Pro | Ser | |

| | Phe | Ala | Tyr 115 | Gly | Lys | Glu | Gly | Tyr 120 | Ala | Glu | Gly | Lys | Ile 125 | Pro | Pro | Asp |
|----|------------------------|-------------------------|-------------------------|--|--|----------------------------|-----------------------------------|---|---|----------------------|-------------------|------------|-------------------|------------------|------------|------------|
| 5 | Ala | Thr 130 | Leu | Ile | Phe | Glu | Ile 135 | Glu | Leu | Tyr | Ala | Val 140 | Thr | Lys | Gly | Pro |
| 10 | Arg 145 | Ser | Ile | Glu | Thr | Phe 150 | Lys | Gln | Ile | Asp | Met 155 | Asp | Apn | Asp | Arg | Gln 160 |
| | Leu | Ser | Lys | Ala | Glu 165 | Ile | Asn | Leu | Tyr | Leu 170 | Gln | Arg | Glu | Phe | Glu 175 | Lys |
| 15 | Asp | Glu | Lys | Pro 130 | Arg | Asp | Lys | Ser | Tyr 185 | Gln | Asp | Ala | Val | Leu 190 | Glu | Asp |
| | Ile | Phe | Lys 195 | Lys | Asn | Asp | His | Asp 200 | Gly | Asp | Gly | Phe | Ile 205 | Ser | Pro | Lys |
| 20 | Glu | Tyr 210 | Asn | Val | Тут | Gln | His 215 | Asp | Glu | Leu | Xaa | | | | | |
| 25 | (2) | INFO | ORMAT | rion | FOR | SEQ | ID 1 | NO: 2 | 257: | | | | | | | |
| | | | (i) : | ₹. | A) L | CHAI ENGT: YPE: | H: 5 | 0 am | ino . | | s | | | | | |
| 20 | | | | | | | | | | | | | | | | |
| 30 | | | (xi) | | | CPOL E DES | | lin PTIO | | EQ II | O11 C | : 25 | 7 : | | | |
| 30 | Met 1 | | | SEQ | UENC | E DES | SCR II | PTIO | √1: SI | | | | | Phe | Val 15 | Leu |
| - | 1 | Trp | Val | SEQUIL Ile | UENCi Arg 5 | E DE: Val | SCR II | PTION Gln | 1: SI | Thr 10 | Phe | Leu | Phe | Phe Leu 30 | 15 | |
| - | l Phe | Trp Trp | Val Ser | SEQUAL SEQUENTS OF THE SEQUENT | WENCi Arg 5 His | E DES Val Cys | Phe Ile | PTION Gln Ser | N: SI Lys Asp 25 | Thr 10 Lys | Phe Phe | Leu Gly | Phe Cys | Leu | 15 Trp | His |
| 35 | l Phe | Trp Trp Cys | Val Ser Met | SEQUAL SEQUENTS OF THE SEQUENT | WENCi Arg 5 His | E DES Val Cys | Phe Ile | PTION Gln Ser Asp | N: SI Lys Asp 25 | Thr 10 Lys | Phe Phe | Leu Gly | Phe Cys Ser | Leu 30 | 15 Trp | His |
| 35 | l Phe Val Leu | Trp Cys Xaa 50 | Val Ser Met 35 | SEQUAL SEQUENTS OF | MENCI Arg 5 His Arg | E DES Val Cys Glu | Phe Ile Gly | PTION Gln Ser Asp 40 | N: SI Lys Asp 25 Xaa | Thr 10 Lys | Phe Phe | Leu Gly | Phe Cys Ser | Leu 30 | 15 Trp | His |
| 35 | l Phe Val Leu | Trp Cys Xaa 50 | Val Ser Met 35 | Ile Val 20 Lys CC | PENCE Arg FOR FOR ENCE A) L B) T D) T | E DES Val Cys | Phe Ile Gly ID N RACTH H: 1: ami: | PTION Ser Asp 40 C: 22 ERIST 22 are no as | N: SI Lys Asp 25 Xaa YICS: mino cid ear | Thr 10 Lys Asn | Phe Phe Cys | Leu Gly | Phe Cys Ser | Leu 30 | 15 Trp | His |

| | Leu | Cys | Asp 35 | Leu | Pro | Phe | Ser | Leu 40 | Pro | Ser | Phe | Pro | Gly 45 | Gln | Ala | Arg | |
|----------------|-----------|-----------|------------|------------|-----------|--------------|--------------|-------------|--------------|--------------|-----------|-----------|-----------|------------|-------------|-----------|--|
| 5 | Arg | Gly 50 | Gly | Ala | Glu | Lys | Gln 55 | Gly | Ala | Glu | Gly | Arg 60 | Gly | Leu | Gln | Val | |
| | Lys 65 | Pro | Arg | Gly | Gln | Arg 70 | Thr | Phe | Gln | Val | Ser 75 | Arg | Thr | Ala | Pro | Ala 80 | |
| 10 | Ala | Pro | Arg | Ser | Arg 85 | Gln | Pro | Arg | Pro | Pro 90 | Ala | Ala | Leu | Pro | Ala 95 | Leu | |
| 15 | Gly | Phe | Gly | Gly 100 | _ | Gly | Val | Ala | Lys 105 | Gly | Arg | Phe | Leu | Cys 110 | Phe | Trp | |
| | Cys | Leu | Tyr 115 | Met | Leu | Arg | Ile | Asp 120 | Gln | Xaa | | | | | | | |
| 20 | (2) | INF | ORMA' | TION | FOR | SEQ | ID | NO: | 259: | | | | | | | | |
| | | | (i) | SEQU | | | | | | | l c | | | | | | |
| 25 | | | (xi) | | B) 1 | YPE: | ami :OGY | no a lir | cid ear | acid EQ I | | ı: 25 | 9 : | | | | |
| 30 | Met l | | Ala | Phe | Cys 5 | | Leu | Leu | Leu | Gln 10 | Ala | Gln | Ser | Leu | Leu 15 | | |
| | Arg | Thr | Met | Ala 20 | | Pro | Gln | Asp | Ser 25 | | Arg | Pro | Gly | Glu 30 | | Asp | |
| 35 | Glu | Gly | Met 35 | | Leu | . Leu | Gln | Thr 40 | | Asp | Ser | Met | Ala 45 | | Gly | Ala | |
| 40 | Arg | Pro 50 | | Ala | . Xaa | Arg | Gly 55 | | , Ala | Arg | Trp | Gly 60 | | Ala | Tyr | Thr | |
| .0 | Leu 65 | | His | : Asn | Pro | Thr 70 | | Glr | ı Val | Phe | Arg 75 | | Thr | Ala | . Leu | Leu 80 | |
| 45 | Gly | Ala | Asr | ı Gly | Ala 85 | | Pro | Xaa | t | | | | | | | | |
| 50 | (2) | I11F | FORMA | ATIC | 1 FCF | R SEÇ |) ID | NO: | 260: | | | | | | | | |
| - - | | | (i) | | (A) : | LENG TYPE | TH: : | 26 a ino | mino acid | S: acio | ds | | | | | | |
| 55 | | | (xi |) SE | | | LOGY ESCR | | | SEQ : | ED NO | D: 26 | 50: | | | | |
| | | : Ile | e Glr | n Val | | r Val | l Pro |) Let | ı Lev | ı Thi | | e Met | : Ile | e Phe | e Lev 19 | ı Leu | |
| 60 | Tyn | r Lei | ı Glr | n Ile | e Gly | / Pro | o Gly | y Ly: | s Lev | ı Xaa | ì | | | | | | |

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20 25

| 5 | (2) INFORMATION FOR SEQ ID NO: 261: |
|----|--|
| 10 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 29 amino acids (B) TYPE: amino acid (D) TOPOLOSY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 261: |
| 15 | Met Leu Leu Asp Pro Phe Ile Leu Leu Phe Cys Leu Phe Ser Thr Al 1 5 10 15 Ala Gln Ser Cys Leu Glu Phe Ile Tyr Ile Gln Phe Xaa 20 25 |
| 20 | (2) INFORMATION FOR SEQ ID NO: 262: |
| 25 | (i) SEQUENCE CHARACTEFISTICS: (A) LENGTH: 44 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 262: |
| 30 | Met Lys Phe Leu Ser Ile Leu Leu Asp Asp Asn Asn Phe Kaa Leu Me 1 5 10 15 |
| | Leu Met Leu Ala Pro Phe Gly Cys Leu Ala Phe Glu Arg Ser Met Ly 20 25 30 |
| 35 | Met Arg Asn Gly Ala Leu 3ly Leu Glu Glu Val Xad 35 40 |
| 40 | (2) INFORMATION FOR SEQ ID NC: 263: |
| 45 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 363 amino acids (B) TYPE: amino acid (D) TOPOLOGY: Linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 263: |
| 50 | Met Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser P: 1 5 10 15 |
| 30 | Val His Thr Thr Leu Ger Lys Ser App Ala Lys Lys Ala Ala Ger L 20 25 30 |
| | |

 60° . And Ser Tyr Cys Ser Ala Dys Ala And Asp And His Fig. Ala Slv Asp

| | 65 | | | | | 70 | | | | | 75 | | | | | 80 |
|----|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Val | Leu | Gly | Tyr | Val 85 | Thr | Pro | Trp | Asn | Ser 90 | His | Gly | Tyr | Anp | Val 95 | Thr |
| | Lys | Val | Phe | Gly 100 | Ser | Lys | Phe | Thr | Gln 105 | Ile | Ser | Pro | Val | Trp 110 | Leu | Gln |
| 10 | Leu | Lys | Arg 115 | Arg | Gly | Arg | Glu | Met 120 | Phe | Glu | Val | Thr | Gly 125 | Leu | His | Asp |
| | Val | Asp 130 | Gln | Gly | Trp | Met | Arg 135 | Ala | Val | Arg | Lys | His 140 | Ala | Lys | Gly | Leu |
| 15 | His 145 | Ile | Val | Pro | Arg | Leu 150 | Leu | Phe | Glu | Asp | Trp 155 | Thr | Tyr | Asp | qzA | Phe 160 |
| 20 | Arg | Asn | Val | Leu | Asp 165 | Ser | Glu | Asp | Glu | Ile 170 | Glu | Glu | Leu | Ser | Lys 175 | Thr |
| | Val | Val | Gln | Val 130 | Ala | Lys | Asn | Gln | His 135 | Phe | Asp | Gly | Phe | Val 190 | Vál | Glu |
| 25 | Val | Trp | Asn 195 | Gln | Leu | Leu | Ser | Gln 200 | Lys | Arā | Val | Thr | Asp 205 | Gln | Le·u | Gly |
| | Met | Phe 210 | Thr | His | Lys | Glu | Phe 215 | Glu | Gln | Leu | Ala | Pro 220 | Val | Leu | Acp | Gly |
| 30 | Phe 225 | Ser | Leu | Met | Thr | Tyr 230 | Asp | Tyr | Ser | Thr | Ala 235 | His | Gln | Pro | Gly | Pro 240 |
| 35 | Asn | Ala | Pro | Leu | Ser 245 | Trp | Val | Arg | Ala | Cys 250 | Val | Gln | Val | Leu | Asp 255 | Pro |
| | Lys | Ser | Lys | Trp 260 | Arg | Ser | Lys | Ile | Leu 265 | Leu | Gly | Leu | Asn | Phe 270 | Tyr | Gly |
| 40 | Met | Asp | Туг 275 | Ala | Thr | Ser | Lys | Asp 280 | Ala | Arg | Glu | Pro | Val 285 | Val | Gly | Ala |
| | Arg | Tyr 290 | Ile | Gln | Thr | Leu | Lys 295 | Asp | His | Arg | Pro | Arg 300 | Met | Val | Trp | Asp |
| 45 | Ser 305 | Gln | Xaa | Ser | Glu | His 310 | Phe | Phe | Glu | Tyr | Lys 315 | Lys | Ser | Arg | Ser | Gly 320 |
| 50 | Arg | His | Val | Val | Phe 325 | Tyr | Pro | Thr | Leu | Lys 330 | Ser | Leu | Gln | Val | Arg 335 | Leu |
| | Glu | Leu | Ala | Arg 340 | Glu | Leu | Gly | Val | Gly 345 | Val | Ser | Ile | Trp | Glu 350 | Leu | Gly |
| 55 | Gln | Glγ | Leu 355 | Asp | Tyr | Phe | Tyr | Asp 360 | Leu | Leu | Xaa | | | | | |

(2) INFORMATION FOR SEQ ID NO: 264:

| | | | (i) | (| A) L | ENGT | H: 1 | ERIS .23 a .no a | mino | : aci | ds | | | | | |
|----|-----------|-----------|------------|------------|----------------------|-----------------------|---------------------|------------------------|-------------------|--------------------|-----------|-----------|------------|------------|-----------|-----------|
| 5 | | | (xi) | | | | | lin Ollk | | EQ I | D NO | : 26 | 4: | | | |
| | Leu 1 | | Thr | Lys | Ile 5 | Leu | Val | Lys | Pro | Asp 10 | Arg | Thr | Phe | Glu | Ile 15 | Lyc |
| 10 | Ile | Gly | Gln | Pro 20 | Thr | Val | Ser | Γ_I | Phe 25 | Leu | Lys | Ala | Ala | Ala 30 | Gly | Il∈ |
| 15 | Glu | Lys | Gly 35 | Ala | Arg | Gln | Thr | Gly 40 | Lys | Glu | Val | Ala | Gly 45 | Leu | Val | Thr |
| | Len | Lys Sc | His | Vetl | Tyr | Glu | Il⊖ 55 | Ala | Arq | Ile | Lys | Ala 60 | Gln | Asp | Glu | Ala |
| 20 | Phe 65 | | Leu | Gln | Asp | Val 70 | Pro | Len | Ser | Ser | Va1 75 | Val | Arg | Sor | Il≑ | 11e 80 |
| | Gly | Ser | Ala | Arg | Ser 85 | Leu | Gly | Ile | Arq | Val 90 | Val | Lys | qzA | Leu | Ser 95 | Ser |
| 25 | Glu | Glu | Leu | Ala 100 | Ala | Phe | Gln | Lys | Glu 105 | Arg | Ala | Ile | Phe | Leu 110 | Ala | Ala |
| 30 | Gln | Lys | Glu 115 | Ala | Asp | Leu | Ala | Ala 120 | Gln | Glu | Glu | Ala | Ala 125 | Lys | Lys | Хаа |
| 35 | (2) | INF | OPMA: | rion | FOR | SEQ | 1 DI | VO: 2 | 265: | | | | | | | |
| 40 | | | | (. (| A) L B) T D) T | ENGT YPE : CPOL | H: 5 ami CGY: | no a lin | ino cid ear | : acid EQ II | | : 26 | 5 : | | | |
| 45 | Met 1 | Leu | Leu | Gln | Fle 5 | His | Pro | Len | Lea | Pro 10 | Ser | Pro | Thr | Tle | Pro 15 | Ніз |
| | Ile | Leu | Leu | Leu 20 | Phe | Leu | Tyr | Pro | Thr 25 | Phe | Ser | Ile | Leu | Glu 30 | His | Ser |
| 50 | Cys | Ser | Тут 35 | Cys | He | Glu | Tyr | Leu 40 | Trp | Val | Cys | Leu | Leu 45 | Phe | Cys | Leu |
| | Ser | 1.00 | Trn | tho | 1.001 | Маа | | | | | | | | | | |
| | | | FMW. | :: :: | F 1 | . H. | :: : | | .•• | | | | | | | |
| 60 | | | 11 () | SEÇUI | WE. | THAI | PACTI | FFI:N | nic. | : | | | | | | |

 $N_{ij} = \{ (i,j) \in \mathcal{N} \mid i \in \mathcal{N} \mid i \in \mathcal{N} \}$

| | | | | (| (A) I T (B) T (G) | TYPE: | ami | no e | | acid | el | | | | | | |
|----|-----------|-----------|------------|------------|-------------------------|----------------------|---------------------|---------------------|------------|-----------|-----------|-----------|------------|------------|-----------|-----------|------|
| 5 | | | (xi) | SEQ | UENC | E DE | SCRI | PTIC | N: S | EÇ I | D NO | : 26 | 6: | | | | |
| -' | Met 1 | | Leu | Trp | Cys 5 | | Gly | Asp | Val | Cys 10 | Ser | Gly | Leu | Ser | Ser 15 | Leu | |
| 10 | Leu | Ser | Leu | Суs 20 | Val | Cys | Cys | Val | Val 25 | Leu | Ala | Val | Cys | | | | |
| 15 | (2) | INF | ORMA | TION | FOR | SEQ | ID. | NO: | 267: | | | | | | | | |
| | | | (i) | (| | ENGT YPE: | H: 2 ami | :6 am .no a | | | ls | | | | | | |
| 20 | | | (xi) | | | | | | | EÇ I | D NO | : 26 | 7 : | | | | |
| | Glu 1 | Gly | Leu | Arg | Leu 5 | Leu | Leu | Ser | Leu | Pro 10 | Ala | Ala | Leu | Pro | Arg 15 | Ser | |
| 25 | Cys | Cys | His | Pro 20 | Arg | Trp | Leu | Pro | Va1 25 | Xaa | | | | | | | |
| 30 | (2) | INF | ORMA | IION | FOR | SEQ | ID I | NO: | 268: | | | | | | | | |
| 35 | | | | ((| A) L B) T D) T | ENGT YPE: OPOL | H: 2 ami OGY: | 21 a no a lin | ear | aci | | : 26 | 8: | | | | |
| 40 | Met 1 | Phe | His | Gly | Ile 5 | Pro | Ala | Thr | Pro | Gly 10 | Ile | Gly | Ala | Pro | Gly 15 | Asn | |
| 10 | Lys | Pro | Glu | Leu 20 | Tyr | Glu | Glu | Val | Lys 25 | Leu | Tyr | Lys | Asn | Ala 30 | Arg | Glu | |
| 45 | Arg | Glu | Lys 35 | Tyr | Asp | Asn | Met | Ala 40 | Glu | Leu | Phe | Ala | Val 45 | Val | Lys | Thr | |
| | Met | Gln 50 | Ala | Leu | Glu | Lys | Ala 55 | Tyr | Ile | Lys | Asp | Cys 60 | Val | Ser | Pro | Ser | |
| 50 | Glu 65 | Tyr | Thr | Ala | Ala | Су:s 70 | Ser | Arg | Leu | Leu | Val 75 | Gln | Tyr | Lys | Ala | Ala 80 | |
| 55 | Phe | Arg | Gln | Val | Gln 85 | Gly | Ser | Glu | Ile | Ser 90 | Ser | Ile | Asp | Glu | Phe 95 | Cys | |
| | Arg | Lys | Phe | Arg 100 | Leu | Asp | Cys | Pro | Leu 105 | Ala | Met | Glu | Arg | Ile 110 | Lys | Glu | |
| 60 | Asp | Arg | Pro 115 | Ile | Thr | Ile | Lys | Asp 120 | Asp | Lys | Gly | Asn | Leu 125 | Asn | Arg | Cys | |

| | Ile | Ala 130 | Asp | Val | Val | Ser | Leu 135 | Phe | Tle | Thr | Val | Met 140 | qaA | Lys | Leu | Arg |
|----|------------|------------|-------------|------------|----------------------|-------------------------|----------------------|---------------------|--------------------|-------------------|------------|------------|------------|------------|------------|------------|
| 5 | Leu 145 | Glu | Ile | Arg | Ala | Меt 150 | Asp | Glu | Ile | Gln | Pro 155 | Asp | Leu | Угэ | 3lu | Leu 160 |
| 10 | Met | Glu | Thr | Met | His 165 | Arg | Met | 3er | His | Leu 170 | Pro | Pro | Asp | Phe | Glu 175 | Gly |
| | Ara | Gin | Thr | Val 180 | Ser | Gln | Trp | Leu | Gln 185 | Thr | Leu | Ser | Gly | Met 190 | Ser | Ala |
| 15 | Ser | Asp | Glu 195 | Leu | Asp | Asp | Ser | Gln 200 | Val | Arg | Gln | Met | Leu 205 | Phe | Asp | Leu |
| | Glu | Ser 210 | Ala | Tyr | Asn | Ala | Phe 215 | Asn | Arg | Phe | Leu | His 220 | Ala | | | |
| 20 | | | | | | | | | | | | | | | | |
| | (2) | 11111 | CAMAC | rion | FOR | SEQ | ID I | 40: I | 269: | | | | | | | |
| 25 | | | (i) (xi) | (| A) L B) T D) T | ENGT YPE: OPOL | H: 3 ami OGY: | ami no a lin | no a cid ear | cids | | : 26 | 9 : | | | |
| 30 | Met 1 | Lyss | Хаа | | | | | | | | | | | | | |
| 35 | (2) | INF | ORMA | TION | FOR | SEQ | ID: | NO: 1 | 270: | | | | | | | |
| 40 | | | (1) (xi) | ((| A) L B) T D) T | ENGT TYPE : TOPOL | H: 4 ami .CGY: | 9 am no a lin | nno cid ear | : acid EQ I | | : 27 | 0 : | | | |
| | Met | Gln | | | | | | | | | | | | Ser | Asn | Leu |
| 45 | 1 | | | | 5 | | | | | 10 | , | | | | 15 | |
| | Tyre | Cyc | Fhe | 20 20 | | Phe | Gin | Pro | Asn 25 | Ile | ಶೀಕ | Pro | Cys | Fro 30 | Leu | Cyrs |
| 50 | His | Cys | 11e 35 | | Pro | Kaa | His | His 40 | His | Val | Phe | Leu | Leu 45 | Leu | Ala | Val |
| | Жаа | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

(i) DEQUENCE CHARACTERISTICS: (A: IFNOTH: 52 enin: aviit:

| | | | (***) | (| D) T | OPCL | OGY : | no a lin | ear | DO 11 | D MO | 20 | 7 | | | |
|----|----------|-----------|-------|-----------|----------------------|----------------------|---------------------|---------------------|-------------------|-----------|------|-------------|-----|-----------|-----------|------|
| 5 | Met | Lys | | | | | | | | | | : 27 Arg | | Arg | Val | Ile |
| | l Gln | Pro | Met | Gly | 5 Met | Ser | Pro | Arg | Gly | 10 His | Leu | Thr | Ser | Leu | 15 Gln | Asp |
| 0 | | | | 20 | | | | | 25 | | | Ser | | 30 | | |
| | | | 35 | | 1111 | 1.16:0 | GIU | 40 | O1;I | Бега | 261 | 261 | 45 | FLO | ASP | ser |
| .5 | Asp | Pro 50 | Asp | Xaa | | | | | | | | | | | | |
| | (2) | IIIF(| ORMA: | ricii | FCR | SEQ | ID 1 | VO: 2 | 272 : | | | | | | | |
| 20 | | | (i) | | | | | ERIS' 2 aum | | | S | | | | | |
| 25 | | | (xi) | (| B) T D) T | YPE: OPOL | ami OGY: | no a lin | cid ear | | | : 27 | 2: | | | |
| | Met 1 | | Val | Gly | Glu 5 | Ala | Val | Phe | Val | Pro 10 | Leu | Gln | His | Pro | Pro 15 | Leu |
|) | Leu | His | Gly | Ser 20 | Pro | Ile | Pro | Lys | Leu 25 | Leu | Pro | Gly | Pro | Leu 30 | Leu | Xaa |
| 5 | | | | | | | | | | | | | | | | |
| | (2) | INF | orma' | LICH | FOR | SEQ | ID : | 10 : CN | 273: | | | | | | | |
| 0 | | | | ((| A) L B) T D) T | ENGT YPE: OPOL | H: 5 ami CGY: | ERIS' 7 am no a lin | ino cid ear | acid | | : 27 | ą. | | | |
| 5 | | | | | His | | | | | Leu | | . 2, | | Lys | | Ile |
| _ | 1 Tyr | | Leu | Trp | 5 Phe | Val | Phe | Ser | Phe | 10 Leu | Leu | Ser | Asn | Glu | 15 Val | Val |
| 0 | Ser | Ser | Нic | 20 | цic | Tla | Lev | Δεσ | 25 A`a | Val | Gln | Ile | Tla | 30 | ساس م | I en |
| 5 | | | 35 | | | | | 40 | | vai | G111 | 116 | 45 | -y3 | **** | Leu |
| 5 | Phe | His 50 | | Xaa | Ile | Ser | Ala 55 | Phe | Xaa | | | | | | | |
| | | | | | | | | | | | | | | | | |

60 (2) INFORMATION FOR SEQ ID NO: 274:

| 5 | | | | (| A) L: B) T D) T | ENGT: YPE : OPOLO | H: 2: ami; OGY: | l am. no ac line | ino a cid ear | acid | | : 27. | 4 : | | | |
|----|----------|-----------|-----------|-----------|-----------------------|-------------------------|-----------------------|----------------------------|---------------------|-----------|-------|-------|------------------|-----------|-----------|-----|
| 10 | 1 | | | Val | 5 | | Pro | His | Val | Lys 10 | Arq | Ах ч | Glu | Cy5 | Val 15 | Leu |
| 15 | Lys | Lys | Pro | Phe 20 | Phe | Xaa | | | | | | | | | | |
| | (2) | INF | CEMA' | rion | FCR | SEQ | ID 1 | IO: 2 | .75 : | | | | | | | |
| 20 | | | | (| A) L B) T D) T | LNGT YPE: OPOL | II. 5 ami OGY: | l am no a lin | ino . cid ear | acid | | : 27 | : د ّ | | | |
| 25 | Met 1 | | Asn | Phe | Phe S | Lys | Asn | Pro | Leu | Leu 10 | Thr | Cys | Leu | Phe | Ile 15 | Ser |
| | Суз | Tyr | Leu | Tyr 20 | Leu | Ser | Leu | Leu | Val 25 | Asn | Lys | Val | Leu | Phe 30 | Ala | Glu |
| 30 | Glu | Gly | Leu 35 | Cys | Cys | Thr | Tyr | Суз 40 | Thr | Thr | Ser | Asn | Thr 45 | Glγ | Glu | Gly |
| 35 | Gly | Val 50 | Xaa | | | | | | | | | | | | | |
| | (2) | INF | OFMA | TION | FOR | SEQ | ΙĎΙ | NO: 1 | 276: | | | | | | | |
| 40 | | | (i) | (| A) L B) T | ENGT YPE: | H: 2 ami | ERIS ami no a lin | no a cid | | | | | | | |
| 45 | | | | SEC | UFIN | E DE | JCE I | PTIO | N: S | EQ I | D 110 |): 27 | tő : | | | |
| | Met 1 | Xdu | | | | | | | | | | | | | | |
| 50 | (2) | 1715 | CEMA | TICN | F∩R | SEQ | ID | NO: | 277: | | | | | | | |
| | | | | | . • • • | | | 1.5 F 5 | ere i | | | | | | | |
| | | | | | £ . | | | | | | | | | | | |
| 60 | Met. | . 1 | i Nyss | 77.17 | 1 1 r. | 1,000 | Thr | 711 | 7.1 | 110 | 11. | I : | - Ala | . P 1 | iln 17 | T |

. Na kanana na kanana

| | Thr | Arg | Thr | Thr 20 | Gly | Ile | Fro | Lys | Asn 25 | Ala | Pro | Gly | Pro | Ala 30 | Pro | Leu |
|----|------------|------------|------------|------------|------------|------------|------------|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Cys | Ala | Pro 35 | Arg | Ser | Pro | Arg | Leu 40 | Ph⊖ | Leu | Gln | Kaa | Tyr 45 | Arg | Gly | Pro |
| 10 | Asn | Gly 50 | Arg | Pro | Ala | His | Pro 55 | Phe | Leu | Gly | Pro | Ser 60 | Asp | Leu | Asp | Thr |
| | Ser 65 | Xaa | | | | | | | | | | | | | | |
| 15 | (2) | INF: | PMA. | NOIT | FOR | SEQ | ID I | vo: 2 | 278: | | | | | | | |
| 20 | | | (1) | (| A) L | ENGT | H: 2 | ERIS' | mino | | ds | | | | | |
| 20 | | | (xi) | (| C) T | GPOL | OGY : | no a lin PTIO | ear | EQ II | ON C | : 27 | 8 : | | | |
| 25 | Met 1 | Leu | Gly | Ala | Lys 5 | Pro | His | Trp) | Leu | Pro 10 | Gly | Pro | Leu | His | Ser 15 | Pro |
| | Gly | Lett | Pro | Leu 20 | Val | Leu | Val | Leu | Leu 25 | Ala | Leu | Gly | Ala | Gly .30 | Trp | Ala |
| 30 | Gln | Glu | Gly 35 | Ser | Glu | Pro | Val | Leu 40 | Leu | Glu | Gly | Glu | Cys 45 | Leu | Val | Val |
| 35 | Cys | Glu 50 | Pro | Gly | Arg | Ala | Ala 55 | Ala | Gly | Gly | Pro | Gly 60 | Gly | Ala | Ala | Leu |
| | Gly 65 | Glu | Ala | Pro | Pro | Gly 70 | Arg - | Val | Ala | Phe | Хаа 75 | Ala | Val | Arg | Ser | His 80 |
| 40 | His | His | Glu | Pro | Ala 85 | Gly | Glu | Thr | Gly | Asn 90 | Gly | Thr | Ser | Gly | Ala 95 | Ile |
| | Тут | Phe | Asp | Gln 100 | Val | Leu | Val | Asn | Glu 105 | Gly | Gly | Gly | Phe | Asp 110 | Arg | Ala |
| 45 | Ser | Gly | Ser 115 | Phe | Val | Ala | Pro | Val 120 | Arg | Gly | Val | Tyr | Ser 125 | Phe | Arg | Phe |
| 50 | His | Val 130 | Val | Lys | Val | Tyr | Asn 135 | Arg | Gln | Thr | Val | Gln 140 | Val | Ser | Leu | Met |
| | Leu 145 | Asn | Thr | Trp | Pro | Val 150 | Ile | Ser | Ala | Phe | Ala 155 | Asn | Asp | Pro | Asp | Val 160 |
| 55 | Thr | Arg | Glu | Ala | Ala 165 | Thr | Ser | Ser | Val | Leu 170 | Leu | Pro | Leu | Asp | Pro 175 | Gly |
| | Asp | Arg | Val | Ser 180 | Leu | Arg | Leu | Arg | Arg 185 | Gly | Xaa | Ser | Thr | Gly 190 | Trp | Leu |
| 60 | Glu | Ile | Leu | Lys | Phe | Leu | Trp | Leu | Pro | His | Leu | Pro | Ser | Leu | Lys | Asp |

| | | | 195 | | | | | 200 | | | | | 205 | | | |
|----|------------|------------|--------------|------------|----------------------|----------------------|---------------------|---------------------|--------------------|-------------|------------|-----------|-----------|-----------|------------|------------|
| 5 | | Ser 110 | leu. | Seg | Jer | The | Arş 215 | 113 | Gln | Pro | Leu | Thr | Thr | Fhe | Phe | Cys |
| ., | Pro 225 | Ten | Leu | Pro | Каа | 1972 230 | glm | Hua | Lys | Glm | Жаа 235 | Жаа | Каа | Ser | Leu | Trp 240 |
| 10 | Leu | Leu | Ser | His | 14u 245 | Phe | Ala | 7270 | Slu | Pro 250 | Val | Pro | Asn | Thr | Gln 255 | Val |
| | Kaa | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| | (2) | | OFMAN (i) | | | | | | | | | | | | | |
| 20 | | | (xi) | (| A) 1 3) T 3) T | ENCT YPE: YPYL | H: 1 ami CGY: | 03 a no a lin | mino cid ear | aci EQ I | | : 27 | 9 : | | | |
| 25 | Met 1 | Ala | 520 | Arq | Ala S | Le. | 2 ≭0 | gly | Ser | Ala 10 | Val | Leu | Ala | Ala | Ala 15 | Val |
| 30 | Phe | Val | Gly | Gly 20 | Ala | Val | Ser | 342 | Pro 25 | Leu | Val | Ala | Pro | Asp 30 | Asn | Gly |
| | Ser | Ser | 25 33 | The | leu | His | Ser | 349 40 | Thr | Glu | Thr | Thr | Pro 45 | Ser | Pro | Ser |
| 35 | Asn | Asp 50 | | Gly | Agn | Gly | H1s 55 | Pro | Glu | Tyr | Ile | Ala 60 | Tyr | Ala | Leu | Val |
| | Pro 65 | Val | Phe | Phe | Ile | Met 70 | G}√ | Leu | Phe | Gly | Val 75 | | Ile | Хаа | Pro | Каа 80 |
| 40 | Хаа | Жаа | Lys | Lys | Lys 95 | | T-, | 253 | Cys | Thr 30 | | Glu | Ala | Glu | Gln 95 | Asp |
| 45 | Ile | Olu | Jir. | G14 161 | Lya | 917 | Kaa | | | | | | | | | |
| | (2) | lif | CFMA | Ticn | FOR | SEQ | ID | :: O: | 280: | | | | | | | |
| 50 | | | (£) | | (A) I | EKT | H: 3 | | uino | e adit | ls | | | | | |
| | | | | | | | | | | | | | | | | |

Lew Pile Fra Trp Ara Trr Arp (In Gly Tys Gly Er; Ala Thr Tyo Tyr 60)

 $\mathcal{S}_{\mathbf{k}} = \{ \mathbf{k} \in \mathcal{S}_{\mathbf{k}} \mid \mathbf{k} \in \mathcal{S}_{\mathbf{k}} \mid \mathbf{k} \in \mathcal{S}_{\mathbf{k}} \mid \mathbf{k} \in \mathcal{S}_{\mathbf{k}} \}$

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| | (2) INFORMATION FOR SEQ ID NO: 281: |
| 10 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 43 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 281: |
| 15 | Met Val Leu Gly Leu Leu Leu Leu Xaa Phe Phe Ser Phe Ser Ser 1 5 10 15 |
| 20 | Ser Pro Ser Pro Ser Ser Leu Leu Leu Leu Ser Ser Phe Phe Phe 20 25 30 |
| | Gln Ser Leu Ala Leu Ser Pro Arg Leu Glu Xaa 35 40 |
| 25 | (2) INFORMATION FOR SEQ ID NO: 282: |
| 30 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 21 amino acids (B) TYPE: amino acid (D) TOPCLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 282: |
| 35 | Glu Trp Leu Val Phe Thr Phe Leu Leu Val Phe Gly Ser Pro Leu Gly 1 5 10 15 |
| | Lys Gly Pro Leu Xaa 20 |
| 40 | |
| 45 | (2) INFORMATION FOR SEQ ID NO: 283: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 70 amino acids (B) TYPE: amino acid (D) TOPCLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 283: |
| 50 | Met Ile Arg Ala Leu Ser Leu Phe Leu Leu Ile Phe Asp Ala Ala Leu l 5 10 15 |
| 55 | Phe Ser Leu Ser Val Phe Val Phe Ile Gly His Leu Leu Pro Met Pro 20 25 30 |
| 55 | Lys Gly Thr Gly Leu His Ser Cys Ala Lys His Leu Ile Lys Ser Leu 35 40 45 |
| 60 | Lys Glu Asn Val Leu Pro Leu Met Asn Tyr Pro Asp Cys Lys Leu Lys 50 55 60 |

| | Ile 65 | Asn | He | Ser | Pro | Xaa 70 | | | | | | | | | | |
|------------|-----------|-----------|-----------|-----------|----------------------|----------------------|---------------------|---------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----|
| 5 | | | | | | | | | | | | | | | | |
| | (2) | LIF | OPMA' | FICN | FOR | SEQ | [D : | K): 2 | 84: | | | | | | | |
| 10 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 7 ami CGY: | 5 am no a lin | ino cid ear | acid | | : 28 | 4: | | | |
| 15 | Met 1 | Gly | Lys | Leu | Tle 5 | Arg | Leu | Ser | Val | Met 10 | Val | Met | Ser | Val | Arg 15 | Arg |
| 20 | Leu | The | Ser | Ile 20 | Tyr | Trp | Val | Leu | Ser 25 | Thr | Val | Pro | Asp | Ala 30 | Val | Gly |
| | Ser | Arg | Gly 35 | Gly | Met | Glu | Glu | Glu 40 | Суп | Ser | Arg | Gly | Leu 45 | Cys | Cys | Val |
| 25 | Ala | Gly 50 | Gln | His | Lys | Gln | Ala 55 | Lys | Gly | Lys | Arg | Gln 60 | Ala | Trp | Asn | Lys |
| | Gly 65 | Gly | Glu | Тут | Gln | Cys 70 | Val | Thr | Tyr | Cys | Xaa 75 | | | | | |
| 30 | | | | | | | | | | | | | | | | |
| | (2) | INF(| | rton | | | | | | | | | | | | |
| 35 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 3 ami OGY: | 3 am no a lin | ino cid ear | acid | | | | | | |
| 1 0 | | | | SEQ - | | | | | | | | | | | | |
| +() | met 1 | Pro | Ala | Leu | Va.1 5 | Thr | Leu | Leu | Leu | Leu 10 | Phe | Pro | Leu | Leu | Pro 15 | Leu |
| 1 5 | Met | Glu | Ala | Ser 10 | Uys | His | Val | Met | Arg 25 | Суя | Pro | Met | Glu | Arg 30 | Pro | Thr |
| | Maa | | | | | | | | | | | | | | | |
| 50 | (0) | T | 0.004 | | | | | | 200 | | | | | | | |
| | (2) | 16.5 | ORMA | TICN | FOR | _ | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | : | * | | | | | | | | | | |
| 60 | 90 u 1 | Ala | tro | Tip | oly S | Leu | Dena | Lys | leu | L-1 10 | Der 1 | 1 - 1 | Len | Ala | Val je | Ph→ |

S. A. S. Sandania

Xaa 5 (2) INFORMATION FOR SEQ ID NO: 287: (1) SEQUENCE CHARACTERISTICS: 10 (A) LENGTH: 17 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 287: 15 Met Gln Gln Lys Gln Lys Lys Ala Asn Glu Lys Lys Glu Glu Pro Lys 5 10 Xaa 20 (2) INFOFMATION FOR SEQ ID NO: 288: 25 (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 38 amino acids (E) TYPE: amino acid (E) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 288: 30 Met Gln Arg Lys Val Jer Asp Phe Ile Ile His Gln Arg Leu Thr Val 1 5 10 Asn Leu Cys Val Ile Ser Phe Phe Phe Phe Leu Pro Ile Cys Ile Phe 35 25 Ser Leu Ala Lys Lys Kaa 35 40 (2) INFORMATION FOR SEQ ID NO: 289: (1) SEQUENCE CHARACTERISTICS: 45 (A) LENGTH: 12 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 289: 50 Met Ala Leu Leu Ile Ser Ser Leu Ile Trp Ser Xaa 5 55 (2) INFOFMATION FOR SEQ ID NO: 290: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 35 amino acids (B) TYPE: amino acid 60 (D) TOPOLOGY: linear

| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 290: | |
|----|---|-------|
| 5 | Met Gln Mot Phe Thr Val Ser Leu Leu Leu Ser Leu Leu Leu Arg Se 1 5 10 15 | :1 |
| ~ | Thr Asp Gln Asn His Leu Gln Leu Leu Val Gly Arg Glu Asp His Ty 20 25 30 | Ľ |
| 10 | Gly Gly Xaa 35 | |
| 15 | (2) INFORMATION FOR SEQ 10 NO: 291: | |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 15 amino acids (B) TYPE: amino acid (D) TCPCLOGY: linear | |
| 20 | (xi) SEQUENCE DESCRIPTION: SEQ 1D NO: 291: | |
| 25 | Met Ser Glu Ser Ala Cys IIe Leu Asn Asn Gln Lys Glu Leu Xaa 1 5 10 15 | |
| -3 | (2) INFORMATION FOR SEQ ID NO: 292: | |
| 30 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 44 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ 10 NO: 292: | |
| 35 | Met Asp Leu Asp Arg Val Lys Ala Glu Ala Thr Glu Asp Ile Thr Se 1 5 19 15 | er |
| 40 | Gly Val Leu Cys Leu Deu Phe Leu Arg Leu Pro Pro Asn Ser Cys Il 20 25 30 | . 15. |
| | Phe Pro Ser Ala Val Leu Gly Ser Thr Arg Thr Xaa 35 40 | |
| 45 | (2) INFORMATION FOR SEQ ID NO: 293: | |
| | (1) SEQUENCE CHARACTERISTICS: | |
| 50 | (A) LENGTH: 136 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID No. 293: | |
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| | | | 35 | | | | | 40 | | | | | 45 | | | |
|-----|-----------|------------|-----------------|-----------|----------------------|----------------------|---------------------|---------------------|--------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|
| 5 | Phe | Ser 50 | Leu | Thr | Ala | Phe | Asn 55 | Asn | Leu | Glu | Asn | Leu 60 | Val | Phe | Gly | Lys |
| 5 | Gly 65 | Phe | Gln | Ala | Lys | Ile 70 | Phe | Pro | Glu | Ile | Leu 75 | Leu | Cys | Leu | Leu | Leu 80 |
| 10 | Ala | Leu | Phe | Ala | Ser 85 | Gly | Leu | Ile | His | Arg 90 | Val | Cys | Val | Thr | Thr 95 | Cys |
| | Phe | Ile | Phe | Ser | Met | Val | Gly | Leu | Tyr 105 | Tyr | Ile | Asn | Lys | Ile 110 | Ser | Ser |
| 15 | Thr | Leu | Tyr 115 | Gln | Ala | Ala | Ala | Pro 120 | Val | Leu | Thr | Pro | Ala 125 | Lys | Val | Thr |
| 20 | Gly | Lys 130 | Ser | Lуз | Lys | Arg | Asn 135 | Xaa | | | | | | | | |
| 3.E | (2) | INFO | OR MA '. | NCII | FOR | SEQ | I DI | NO: 1 | 294: | | | | | | | |
| 25 | | | | (| A) L B) T D) T | ENGT YPE: OPCL | H: 3 ami OGY: | 4 am no a lin | ino cid ear | acid | | | | | | |
| 30 | Mat | | | SEQ | | | | | | | | | | *1- | 21. | 0.1 |
| | 1 | rne | 116 | Ph⊕ | 5 5 | rne | Leu | Cys | vai | 10 | ser | Arg | гуs | lle | 15 | Glu |
| 35 | Glu | Туг | Tyr | Arg 20 | Leu | Phe | Lys | Asn | Val 25 | Pro | Cys | Cyrs | Phe | Gly 30 | Cys | Leu |
| | Arg | Xaa | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | |
| | (2) | INFO | ORMAT | rion | FOR | SEQ | ID 1 | NO: 1 | 295 : | | | | | | | |
| 45 | | | | (| A) L B) T D) T | ENGT YPE: OPCL | H: 1 ami OGY: | 37 a no a lin | mino cid ear | aci | | : 29 | 5 : | | | |
| 50 | Met 1 | Arg | Thr | Pro | Gly 5 | Pro | Leu | Pro | Val | Leu 10 | Leu | Leu | Leu | Leu | Ala 15 | Gly |
| 55 | Ala | Pro | Ala | Ala 20 | Arg | Pro | Thr | Pro | Pro 25 | Thr | Суз | Tyr | Ser | Arg 30 | Met | Arg |
| ر ر | Ala | Leu | Ser 35 | Gln | Glu | Ile | Thr | Arg 40 | Asp | Phe | Asn | Leu | Leu 45 | Gln | Val | Ser |
| 60 | Glu | Pro 50 | Ser | Glu | Pro | Суѕ | Val 55 | Arg | Tyr | Leu | Pro | Arg 60 | Leu | Tyr | Leu | Asp |

| | Ile 65 | His | Asn | Tyr | Cys | Val 70 | Leu | qsh | Lys | Leu | Arg 75 | Asp | Phe | Val | Ala | Ser 80 |
|----|-----------|------------|------------|------------|--------------------------------------|--------------------------|-----------------------|-------------------------|----------------------|-----------|-----------|------|------------|------------|-----------|-----------|
| 5 | Pro | Pro | Cys | Trp | Lys 85 | Val | Ala | Gln | Val | Asp 90 | Ser | Leu | Lys | Азр | Lys 95 | Ala |
| 10 | Arg | Lys | Leu | Tyr 100 | Thr | Ile | Met | Asn | Ser 105 | Phe | Cys | Arg | Arg | Asp 110 | Leu | Val |
| | Phe | Leu | Leu 115 | Asp | Asp | Cys | Asn | Ala 120 | Leu | Glu | Tyr | Pro | 11e 135 | Pro | Val | Thr |
| 15 | Thr | Val 130 | Leu | Pro | Asp | Arg | Gln 135 | Arg | Xaa | | | | | | | |
| 20 | (2) | | | | FOR | | | | | | | | | | | |
| 25 | | | | (| ENCE A) L B) T D) T UENC | ENGT YPE: OPOL | H: 5 ami OGY: | 8 am no a lin | ino cid ear | acid | | : 29 | 6: | | | |
| | Met 1 | Trp | Leu | Leu | Lys 5 | Pro | Ser | Ala | His | Ser 10 | Pro | Val | His | Xaa | Leu 15 | Val |
| 30 | Leu | Leu | Phe | Pri 20 | Arg | Glγ | Trp | Ser | Gln 25 | Pro | Gly | Thr | His | Lys 30 | Arg | Gln |
| 35 | Ile | Leu | Val 35 | | Xaa | Ala | Ser | Leu 40 | Pro | Gly | Gly | Cys | Leu 45 | Leu | Pro | Trp |
| | Ile | Trp 50 | | Gl; | Ala | Ala | Leu 55 | Arg | Phe | Xaa | | | | | | |
| 40 | (2) | INF | ORMA | TION | FOR | SEQ | ID | NO : | 297 : | | | | | | | |
| 45 | | | | | JENCE (A) I (B) I | LENGT TYPE : TOPO! | H: B ami : YOO: | 85 am ino a : lir | uino scid sear | acid | | . 20 | 17. | | | |
| 50 | Met 1 | | | | OUENC r Ala 5 | Glu | | | | | . Val | | | Lys | Thr 15 | |
| | Leu | Phe | · Val | Leu | Phe | Pro | Ala | . Fhe | Pro os | | Pro | ьlа | . Val | Gly | | Pro |
| | | | | | | | | | | | | | | | | |

 $\{(X_{n+1}, \ldots, X_n) \in \mathcal{A} \mid n \in A \text{ so } A \}$

| | | | (i) | SEQUI .) | | | | EF.I <i>S</i> ' 8 am | | | s | | | | | |
|----|-----------|-----------|-----------|-------------|----------------------|-----------------------|---------------------|-----------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|------------------|-----------|
| 5 | | | (xi) | | D) T | OPOL | OGY : | no a lin PTIO | ear | EQ II | D NO | : 29 | 8 : | | | |
| 10 | Ser 1 | Cys | Tyr | Ile | Thr 5 | Pro | Trp | Ser | Гі.'s | Ile 10 | Gln | Ser | Phe | Ser | Leu 15 | Ser |
| 10 | Leu | Phe | Gln | Phe 20 | Ile | Leu | Gln | Glu | Val 25 | Asn | Ile | Thr | Leu | Pro 30 | Glu | Asn |
| 15 | Ser | Val | Trp 35 | Tyr | Glu | Arg | Tyr | Lys 40 | Phe | Asp | Ile | Pro | Val 45 | Phe | His | Leu |
| | Asn | Gly 50 | Gln | Phe | L⊕u | Met | Met 55 | His | Arg | Val | Asn | Thr 60 | Ser | Lys | Leu | Glu |
| 20 | Lys 65 | Gln | Leu | Leu | Lys | Leu 70 | Glu | Gln | Gln | Ser | Thr 75 | Gly | Хаа | Xaa | | |
| 25 | (2) | INFO | ORMA' | noi. | FOR | SEQ | ID I | NO: 1 | 299: | | | | | | | |
| 30 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | H: 9 ami OGY: | 5 am no a lin | ino cid ear | acid | | : 29 | 9 : | | | |
| 35 | Met 1 | Phe | Val | Leu | Phe 5 | Ser | Leu | Pro | Lys | Tyr 10 | Ala | Gly | Leu | Arg | Leu 15 | Pro |
| | Ile | Pro | Gly | Leu 20 | Ser | Ala | Leu | Leu | Val 25 | Phe | Leu | Leu | Ser | Leu 30 | Phe | Ser |
| 40 | Arg | Arg | Ala 35 | Gln | Val | Glu | Leu | Thr 40 | Thr | Gly | Arg | Glu | Thr 45 | Leu | Pro | Lys |
| | Asn | Leu 50 | Gln | Gly | Tyr | Phe | Pro 55 | Glu | Phe | Gly | Phe | Gln 60 | Val | Gln | Asn | Phe |
| 45 | Leu 65 | Ser | Cys | Lys | Ile | Туг 70 | Ala | Ala | Ser | Gln | Lys 75 | Gln | Pro | Leu | Pro | Pro 80 |
| 50 | Leu | Tyr | Gln | Leu | Arg 85 | Phe | Tyr | Leu | Lys | His 90 | Met | Gly | Leu | Pro | Xaa 95 | |
| | (2) | INF | ORMA' | rion | FOR | SEQ | ID 1 | NO: 3 | 300: | | | | | | | |
| 55 | | | (i) | (| A) L B) T | ENGT YPE : | H: 4 ami | ERIS 4 am no a lin | ino cid | | is | | | | | |
| 60 | | | (xi) | SEQ | | | | | | EQ I | D NO | : 30 | 0 : | | | |

| | Met 1 | Ser | Ser | His | Trp 5 | Thr | Leu | Lys | IÌ₽ | Leu 10 | Leu | Val | Pro | Leu | Phe 15 | Tyr |
|----------|------------------------|--------------------|---------------------------|--|---|---|--|---|---|------------------------------|----------------------------------|--------------------------------|--------------------------------|-------------------------|-------------------------|-------------------|
| 5 | Leu | Ser | Leu | Glu 20 | Phe | Pro | Ser | Gly | Phe 25 | Val | Leu | Cys | Leu | Ala 30 | Asn | Asp |
| | Leu | Gly | Tyr 35 | His | Phe | Ser | Ser | Arg 40 | Val | Arg | Ser | Xaa | | | | |
| 10 | (2) |)चा रा | OFMAT | ואר: דח | FOR | CEA | TT) I | sio · · · | : 1 O S | | | | | | | |
| 15 | (2.7 | **** | (i) : | SEQUI () () | ENCE A) L B) T D) T | CHAI ENGT YPE: OPOL | RACT: H: 3 ami OGY: | ERIS 1 am no a lin | rics ino a cid ear | acid | | : 301 | 1: | | | |
| 20 | Met 1 | Leu | Val | | | | | | | | | | | Phe | Ile 15 | Phe |
| 25 | Leu | Cys | Tyr | Leu 20 | Агр | Ala | Cys | Ile | Asn 25 | Val | Phe | Cys | Phe | Tyr 30 | Xaa | |
| | | | | | | | | | | | | | | | | |
| | (2) | INF | DRMA] | rion | FOR | SEQ | ID 1 | v o: 3 | 302: | | | | | | | |
| 30 | (2) | INF | (i) : | SEQUI () (| ENCE A) L B) T D) T | CHAI ENGT YPE: OPOL | RACT H: 1 ami OGY: | ERIS 13 a no a lin | rics mino cid ear | aci | | | | | | |
| 30 35 | | | (i) : (xi) | SEQUI () () () SEQ! | ENCE A.) L B.) T D.) T UENCI | CHAI ENGT YPE: OPOL E DE: | RACT H: 1 ami OGY: SCRI | ERIS 13 a no a lin PTIO | FICS mino cid ear N: S | aci EQ I | D N O | | | Leu | Thr | Leu |
| | | | (i) : | SEQUI () () () SEQ! | ENCE A.) L B.) T D.) T UENCI | CHAI ENGT YPE: OPOL E DE: | RACT H: 1 ami OGY: SCRI | ERIS 13 a no a lin PTIO | FICS mino cid ear N: S | aci EQ I | D N O | | | Leu | Thr 15 | Leu |
| | Met 1 | Pro | (i) : (xi) | SEQUI (, (, SEQ: Leu | ENCE A) L B) T D) T UENC Pro 5 | CHAI ENGT YPE: OPOL E DE: Gly | RACT H: 1 ami OGY: SCRI Arg | ERIS' 13 a no a lin PTIO | TICS mino cid ear N: S! Thr | aci EQ II Ala 10 | D NO Leu | Leu | Ser | | 15 | |
| 35 | Met 1 Ala | Pro | (i) ; (xi) Val | SEQUI ((SEQ Leu Val | ENCE A) L B) T D) T UENC! Pro 5 | CHAI ENGT YPE: OPOL E DE: Gly | RACT: H: 1 ami OGY: SCRI Arg | ERIST 13 at no a lin PTION Thr | TICS mino cid ear N: S: Thr Val 25 | aci EQ II Ala 10 Glu | D NO Leu Ala | Leu | Ser Pro | Cys 30 | 15 Val | Pro |
| 35 | Met 1 Ala Arg | Pro Phe Ser | (i) : (xi) Val Ala | SEQUI (((SEQ! Leu Val 20 | ENCE A) L B) T D) T UENCI Pro 5 Pro | CHAI ENST YPE: OPOL E DE: Gly Cys | RACT: H: 1 ami OGY: SCRI Arg Ser | ERIS' 13 a no a lin PTIOI Thr Gly Trp 40 | TICS mino cid ear N: S: Thr Val 25 | aci EQ II Ala 10 Glu Ala | D NO Leu Ala Ser | Leu Gly Val | Ser Pro Cys 45 | Cys 30 Val | 15 Val Thr | Pro Ser |
| 35 | Met 1 Ala Arg | Pro Phe Ser Thr 50 | (i) : (xi) Val Ala His 35 | (() () () () SEQUIL Leu Val 20 Gly | ENCE A) L B) T D) T Pro 5 Pro Cyo | CHAI ENGT YPE: OPDL Gly Cys Ser | RACT.H: 1 ami OGY: SCRI Arg Ser Ser Trp 55 | ERIS' 13 a no a lin PTIOI Thr Gly Trp 40 | TICS mino cid ear N: S: Thr Val 25 G.u Ala | aci EQ II Ala 10 Glu Ala Arg | D NO Leu Ala Ser Ala | Leu Gly Val Leu 60 | Ser Pro Cys 45 Phe | Cys 30 Val Pro | 15 Val Thr Ser | Pro Ser Ala |

```
(2) INFORMATION FOR SEQ ID NO: 303:
             (i) SEQUENCE CHARACTERISTICS:
 5
                   (A) LENGTH: 14 amino acids
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 303:
10
     Thr His Ile His Thr His Ile Ile Cys Ser Ser Val Xaa
                                        1.0
15
     (2) INFORMATION FOR SEQ ID NO: 304:
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 35 amino acids
                   (B) TYPE: amino acid
20
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 304:
     Met Glu Asn Phe Phe Phe Ser Phe Tyr Leu Phe Leu Ile Thr Leu Ile
25
     Pro Asn Gly Arg Thr Leu Ser Thr Thr Ala Asp His Cys Lys Ile Pro
                            25
     Cys Ile Xaa
30
              35
     (2) INFORMATION FOR SEQ ID NO: 305:
35
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 35 amino acids
                    (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
40
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 305:
     Met Glu Leu Trp Glu Leu Ala Leu Cys Leu Leu Val Ala Leu Ser Ala
                               10
45
      His Met Phe Thr Val Gln Leu Leu Ala Asp Leu Gly Phe Leu Phe Gly
                 20
                          25
     Gly Phe Xaa
             35
50
      (2) INFORMATION FOR SEQ ID NO: 306:
55
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 82 amino acids
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 306:
60
```

| | Met 1 | Gly | Ala | 317 | 11- 8 | 1-12 | Ala | Leu | Leu | Leu 10 | Pro | Leu | Glu | Sor | Val 15 | Leu |
|----|-----------|-----------|-----------|-----------|----------------------|--------------------------|-----------------------------|-------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5 | Thr | Öys | Ser | 27 25 | Ĭ_== | 3≈ ೮ | Val | Ser | Thr 25 | Ser | Glu | Arg | Gln | L∻u 30 | Trp | Gln |
| | Per | Ser | 91n 35 | Lys | Ala | The | 11a | Leu 40 | Str | Leu | Lys | Leu | Asp 45 | Ser | Cys | Phe |
| 10 | ాక | G17 50 | His | Ser | Gly | Leu | Lys 55 | Gly | Lys | Asn | Glu | qzA 60 | Thr | Asp | Ser | Ser |
| 15 | 741 65 | * * · | 11 | ile | Pro | Set 70 | Lys | Thr | His | Thr | His 75 | Leu | Gly | Lys | His | Leu 80 |
| | lie | XXX | | | | | | | | | | | | | | |
| 20 | (2) | DF: | O F.M.A. | TION | FCP | JEQ. | IO ! | WO: 1 | 307 : | | | | | | | |
| 25 | | | | | A) 1 P) T D) T | DIGT 1793 : 1790 L | H: 7 ami OGY: | EPIS 2 am no a lin PTIC | ino cid ear | acid | | : 30 | 7 : | | | |
| 30 | Met 1 | Phe | Tyr | ∋⊬ē | Val | Leu | Phe | Ile | Tyr | Ser 10 | Ser | Ser | Glu | Thr | Trp 15 | Ser |
| | Gly | Ser | 721 | Ala 20 | 91 . | Asp | Gly | Val | His 25 | Gly | Val | Ile | Ile | Gly 30 | His | Cys |
| 35 | Ser | Val | Olu 35 | leu | Psi | 'gly | Ser | Gly 40 | Asp | Pro | Pro | Ala | Ser 45 | Ala | Xaa | Leu |
| 40 | Val | Ala 50 | 217 | Thr | 1.3 | ely | 55 | Cyp | 210 | Thr | Met | Pro 60 | Gly | Phe | Val | Tyr |
| | Phe 65 | Leu | Alon | ညာင | Val. | Жаа 70 | Ann | Zда | | | | | | | | |
| 45 | (0) | I)F | OPISE | | Fre | JFQ | 10 1 | NO : C | 309: | | | | | | | |
| 50 | | | | (| A) L B) T D) T | EVGT YPE: CPCL | H: 3 ami <i>CGY</i> : | ERIS 4 am no a lin PTIC | ino cid ear | acid | | : 30 | 8: | | | |
| | | | | | | | | | | | | | | | | |

 $\Delta_{\rm sol} = e^{-1} (\pi \Delta) = - \sin 4 \pi / \Delta$

| 5 | (2) | IME | ORMA' | TICN | FOR | SEQ | ID: | : СИ | 309: | | | | | | | | |
|----|-----------|-----------|------------|------------|----------------------|------------------------|---------------------|----------------------|--------------------|------------------|--------------|-----------|-----------|------------|-----------|-----------|--|
| 10 | | | | (| A) L B) T D) T | ENGT YPE : 'OPOL | H: 1 ami CGY: | .15 a no a lin | mino cid ear | : aci EQ I | | . 30 | ٥. | | | | |
| | Met. | Gln | | | | | | | | | | | | Val | C 3 | Leu | |
| 15 | 1 | 01 | | V.31 | 5 | 561 | 115 | 110 | GIY | 10 | vai | Gry | vai | vai | 15 | Lea | |
| | Ala | Phe | Ser | Leu 20 | Val | Ile | Pro | Pro | Pro 25 | Ala | Ile | Cys | Ile | Ala 30 | Gly | Pro | |
| 20 | Ala | Pro | Gly 35 | Leu | Gly | Gly | Gly | Glu 40 | Arg | Gln | Gln | Lys | Gly 45 | Leu | Gly | Arg | |
| | Gly | Gly 50 | Gly | Gly | Leu | Arg | Asn 55 | Cys | Pro | Gly | Arg | Val 60 | Gly | Met | Ala | Ala | |
| 25 | Glu 65 | Pro | Gly | Ala | Leu | Leu 70 | Cys | Leu | Thr | Ser | Arg 75 | Asp | Gly | Ser | Leu | Leu 80 | |
| 30 | Leu | Ser | Cys | Val | Arg 85 | Pro | His | His | Val | Ile 90 | Lys | Pro | Lys | Gly | Thr 95 | Ala | |
| | Lys | Lys | Lys | Lys 100 | Lys | Lys | Lys | Lys | Lys 105 | Lys | Lys | Lys | Lys | Lys 110 | Xaa | Xaa | |
| 35 | Gly | Gly | Xaa 115 | | | | | | | | | | | | | | |
| 40 | (2) | INF | ORMA! | rion | FOR | SEQ | ID ! | .: OV | 310: | | | | | | | | |
| | | | (i) . | (| A) L P) T | ENGT YPE : | H: 1 ami | 08 a no a | mino cid | : aci | ds | | | | | | |
| 45 | | | (xi) | | | OPOL E DE | | | | EQ I | D N O | : 31 | 0: | | | | |
| | Met 1 | Asp | Leu | Pro | Gln 5 | Phe | Ile | Туг | Leu | Phe 10 | Ile | Phe | Çys | Phe | Cys 15 | Суз | |
| 50 | Leu | Ala | Ile | Val 20 | Asn | Asn | Ala | Ser | Ile 25 | Asn | Ile | His | Ile | Gln 30 | Val | Ser | |
| 55 | Met | Trp | Leu 35 | Tyr | Val | Phe | Ile | Ser 40 | Leu | Gly | Tyr | Leu | His 45 | Gly | Ser | Arg | |
| | Ile | Leu 50 | Gly | His | Asn | Ile | Ile 55 | Leu | Cys | Leu | Thr | Ser 60 | Gln | Arg | Ile | Ala | |
| 60 | Lys 65 | Arg | Phe | Phe | Ile | Val 70 | Ala | Ala | Ser | Phe | Thr 75 | Phe | Pro | Pro | Ala | Met 80 | |

| | Tyr | Lys | Авр | Phe | Тут 85 | | Ser | Ile | Ser | Leu 90 | His | Leu | Pro | Thr | Leu 95 | Let |
|-----|-----------|-----------|-----------|------------|----------------------|-----------------------|----------------------|--------------------------------------|-------------------|-----------|-----|-----------|-----------|-----------|-----------|-----|
| 5 | Phe | Xaa | Жаа | Хаа 100 | Phe | Val | Phe | Ser | Leu 105 | Leu | Pro | Pro | | | | |
| 10 | (2) | HUI | ORMA' | rion | FOR | SEQ | ID | NC+: | 311: | | | | | | | |
| 15 | | | | ((| A) L B) T D) T | ENGT YPE: OPOL | H: 6 ami OGY: | ERIS 5 am no a lin PTIC | ino cid ear | acid | | : 31 | 1: | | | |
| 20 | Met l | Cys | Jer | Pro | Ser 5 | | Ser | Ser | Ser | Pro 10 | Pro | Pro | Leu | Leu | Gln 15 | Val |
| _(/ | Phe | Phe | Phe | Phe 20 | Phe | Phe | Ser | Fro | His 25 | Trp | Ala | Ala | Lys | Val 30 | Val | Pro |
| 25 | Gln | Trp | Lys 35 | Xaa | Arg | His | Fro | Gln 40 | Val | Ser | Ser | Gln | Leu 45 | Leu | Leu | Cys |
| | Phe | Leu 50 | Arg | Val | Asn | Cys | Gln 55 | Fhe | Leu | Phe | Leu | Gln 60 | Glu | Ile | Leu | Phe |
| 30 | Хаа 65 | | | | | | | | | | | | | | | |
| 35 | (2) | INF | ORMA | noi1 | FOF. | SEQ | ID I | NC: | 312: | | | | | | | |
| 40 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | H: \5 ami OGY: | ERIS' 0 am no a lin PTIO | ino cid ear | acid | | : 31 | 2: | | | |
| 45 | Met 1 | Cys | Leu | Ser | Arg ç | Trp | Lys | Ile | Phe | T;r 10 | Thr | Leu | Leu | Ile | Leu 15 | Phe |
| • | Хза | Каа | Phe | Ser 20 | I1÷ | Thr | Sor | olu | Хаа 15 | 31u | Thr | Phe | Tyr | Меф 30 | The | Il- |
| 50 | Ile | His | His 35 | Asn | Pro | Thr | Gln | Ile 40 | Thr | Ala | Ser | Cys | Ser 45 | Phe | Thr | Phr |
| | Leu | Жаа 5Э | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | EF 1.5 | | | da | | | | | |

 $(-1)^{\frac{1}{2}} (1-1)^{\frac{1}{2}} = (-1)^{\frac{1}{2}} (1-1)^{\frac{1}{2}} (1-1)^{\frac{1}{$

| | | | | | E) T E) T | | | | | | | | | | | |
|----|------------|------------|------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | | (xi) | | | | | | | EQ II | ON C | : 31 | 3 : | | | |
| 5 | Met 1 | Glu | Arg | Pro | Asp 5 | Trp | Glu | Thr | Ala | Ile 10 | Gln | Lys | Pro | Leu | Cys 15 | Ser |
| 10 | Leu | Pro | Ala | Gly 20 | Ser | Gly | Asn | Ala | Leu 25 | Ala | Ala | Ser | Leu | Asn 30 | Ніз | Tyr |
| 10 | Ala | Gly | Tyr 35 | Xaa | Gln | Val | Thr | Asn 40 | Glu | Asp | Leu | Leu | Thr 45 | Asn | Cys | Thr |
| 15 | Leu | L÷u 50 | Leu | Суз | Arg | Arg | Leu 55 | Leu | Ser | Fro | Met | Asn 60 | Leu | Leu | Ser | Leu |
| | His 65 | Thr | Ala | Ser | Gly | Leu 70 | Yrá | Leu | Phe | Ser | Val 75 | Leu | Ser | L€u | Ala | Trp 80 |
| 20 | Gly | Phe | Ile | Ala | Asp 85 | Val | Asp | Leu | Glu | Ser 90 | Glu | Lys | Tyr | Arg | Arg 95 | Leu |
| 25 | Gly | Glu | Met | Arg 100 | Phe | Thr | Leu | Gly | Thr 105 | Fhe | Leu | Arg | Leu | Ala 110 | Ala | Leu |
| | Arg | Thr | Tyr 115 | Arg | Gly | Arg | Leu | Ala 120 | Tyr | Leu | Pro | Val | Gly 125 | Arg | Val | Gly |
| 30 | Ser | Lуs 130 | Thr | Pro | Ala | Ser | Pro 135 | Val | Val | Val | Gln | Gln 140 | Gly | Pro | Val | Asp |
| | Ala 145 | His | Leu | Val | Pro | Leu 150 | Glu | Glu | Pro | Val | Pro 155 | Ser | His | qrT | Thr | Val 160 |
| 35 | Val | Pro | qzA | Glu | Asp 165 | Phe | Val | Leu | Val | Leu 170 | Ala | Leu | Leu | His | Ser 175 | His |
| 40 | Leu | Gly | Ser | Glu 180 | Met | Phe | Ala | Ala | Pro 185 | Met | Glγ | Arg | Cys | Ala 190 | Ala | Gly |
| | Val | Met | His 195 | Leu | Phe | Tyr | Val | Arg 200 | Ala | Gly | Val | Ser | Arg 205 | Ala | Met | Leu |
| 45 | Leu | Arg 210 | Leu | Phe | Leu | Ala | Met 215 | Glu | Lys | Gly | Arg | His 220 | Met | Glu | Tyr | Glu |
| | Cys 225 | Pro | Tyr | Leu | Val | Tyr 230 | Val | Pro | Val | Val | Ala 235 | Phe | Arg | Leu | Glu | Pro 240 |
| 50 | Lys | Asp | Gly | Lys | Gly 245 | Val | Phe | Ala | Val | Asp 250 | Gly | Glu | Leu | Met | Val 255 | Ser |
| 55 | Glu | Ala | Val | Gln 260 | Gly | Gln | Val | His | Pro 265 | Asn | Tyr | Phe | Trp | Met 270 | Val | Ser |
| | Gly | Cys | Val 275 | Glu | Pro | Pro | Pro | Ser 280 | _ | Lys | Pro | Gln | Gln 285 | Met | Pro | Pro |
| 60 | Pro | Glu 290 | Glu | Pro | Leu | | | | | | | | | | | |

| 5 | (2) | INF | ORMAT | rion | FOR | SEQ | ID I | 40: J | 314: | | | | | | | |
|----------|-------------------------------|-------------------|---------------------------|---|---|--|---|--|---|----------------------------|--------------------|--------------------------------|--------------------------------|-------------------------|-------------------|------------|
| 10 | | | | (| A) L B) T D) T | ENGT YPE: CPOL | H: 6 ami OGY: | ERIS 8 am no a lin PTIO | ino cid ear | acid | | : 31 | 1 : | | | |
| | Met 1 | Pro | Leu | Glu | Gly 5 | Phe | Суз | Leu | Val | Leu 10 | Asp | Ile | Glγ | Phe | Leu 15 | Leu |
| 15 | Val | Met | Leu | Ile 20 | Ser | Leu | Ala | Jer | Glu 25 | Cys | Phe | Thr | Thr | Cys 30 | Leu | Asp |
| 20 | Ser | Phe | Ser 35 | Thr | Thr | Glu | Pro | Gly 40 | Cys | Lys | Phe | Tyr | Lys 45 | Leu | Leu | His |
| -0 | Ser | Val 50 | | Leu | Leu | Asn | Ile 55 | Asn | Phe | Asn | Val | Lys 60 | Ser | Leu | Leu | Cys |
| 25 | Ser 65 | His | Ile | Xaa | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 30 | (2) | INF | | SEQU) | ENCE A) L | CHA ENGT | RACT H: 1 | NO: C ERIS C5 a no a | TICS mino | | ds | | | | | |
| 30 35 | (2) | INF | (1) | SEQU)) (| ENCE A) L B) T D) T | CHA ENGT YPE: | RACT H: l ami OGY: | ERIS | TICS mino cid ear | aci | | : 31 | 5: | | | |
| | | Pro | (1) (xi) | SEQU)) SEQ | ENCE A) L B) T D) T UENC | CHA ENGT YPE: CPCL E DE | RACT H: l ami OGY: SCRI | ERIS 05 a no a lin | TICS mino cid ear N: S | aci EQ I | D N O | | | Leu | Val 15 | Ph∈ |
| | Met 1 | Pro | (1) (xi) Leu | SEQU (() SEQ Gln | ENCE A) L B) T D) T UENC Leu 5 | CHA ENGT YPE: CPCL E DE | RACT H: l ami OGY: SCRI Gly | ERIS 05 a no a lin PTIO | TICS mino cid ear N: S | e aci EQ I Trp 10 | D NO Ile | Ser | Leu | | 15 | |
| 35 | Met 1 Leu | Pro | (i) (xi) Leu Leu | SEQU ((SEQ Gln Gln 20 | ENCE A) L B) T D) T UENC Leu 5 | CHA ENGT YPE: CPOL E DE Ser | RACT H: 1 ami OGY: SCRI Gly Pro | ERIS' .05 a no a lin PTIO | TICS mino cid ear N: S Tyr Ala 25 | EQ II Trp 10 Ala | D NO Ile Ile | Ser Pro | Leu Cys | Ala 30 | 15 Leu | Thr |
| 35 | Met 1 Leu Asp | Pro Ser Val | (xi) (xi) Leu Leu Gly 35 | SEQU ((SEQ Gln Gln 20 | ENCE A) L B) T D) T UENC Leu 5 Pro | CHACENGT YPE: CPCL E DE Ser Phe | RACTH: 1 ami OGY: SCRI Gly Pro | ERIS' 05 a no a lin PTIO Gln Gln | TICS mino cid ear N: S Tyr Ala 25 Cys | EQ I: Trp 10 Ala | D NO Ile Ile | Ser Pro | Leu Cys Leu 45 | Ala 30 Asn | 15 Leu Cys | Thr |
| 35 | Met 1 Leu Asp Cys | Pro Ser Val | (xi) (xi) Leu Gly 35 Leu | SEQUU (() () () () () () () () () () () () () | ENCE A) L B) T D) T UENC Leu 5 Pro Ser | CHA ENGT YPE: CPCL E DE Ser Phe Cys | RACTH: 1 ami oGY: SCRI Gly Pro Val Thr 55 | ERIS' C5 a no a lin PTIO Gln Gln Ile 40 | TICS mino cid ear N: S Tyr Ala 25 Cys | EQ II Trp 10 Ala His | D NO Ile Ile Ile | Ser Pro Leu Ser 60 | Leu Cys Leu 45 His | Ala 30 Asn Val | Leu Cys Leu | Thr Len |

 $\{(\Delta_{k})_{k} \in \mathcal{F}_{k} \mid k \in \mathcal{A}_{k}\} = \{(a,b)_{k} \in A_{k}\}$

| 5 | | | | (. (: | A) L B) T D) T | ENGT YPE: OPOL | H: 7 ami OGY: | l am no a lin | ear | acid | | | | | | |
|------------|-----------|-----------|-----------|--------------|----------------------|-----------------------|---------------------|---------------------|--------------|-----------|------|-----------|-----------|-----------|-----------|-----|
| | | | (X1) | SEQt | JEINC! | E DE | SCRI | PTIO | N: SI | EQ I | OM C | : 319 | 5 : | | | |
| 10 | Met 1 | Trp | Gly | Cys | Ser 5 | Gly | Leu | Gly | His | Arg 10 | Thr | Val | Ser | Phe | Leu 15 | Leu |
| 10 | Leu | Leu | Pro | Cys 20 | Ser | Phe | Pro | Arg | Pro 25 | Cys | Xaa | Leu | Phe | Gly 30 | Leu | Ile |
| 15 | Pro | Ile | Ser 35 | Arg | Pro | Суз | Lys | Val 40 | Glu | Ala | Pro | Arg | Leu 45 | Ser | Val | Pro |
| | Xaa | Leu 50 | Ser | C7:s | Ala | Ser | His 55 | Pro | Tyr | Cys | Asn | Cys 60 | Pro | Met | Ser | Thr |
| 20 | Ser 65 | Суз | Pro | Leu | Pro | Arg 70 | Xaa | | | | | | | | | |
| 25 | (2) | INF | ORMAT | ricni | FCR | SEQ | ID 1 | O: | 317: | | | | | | | |
| 30 | | | | (| A) L B) T D) T | ENGT YPE: OPCL | H: 3 ami CGY: | 9 am no a lin | | acid | | : 31 | 7 : | | | |
| 35 | Met 1 | Leu | Asn | Val | Leu 5 | Ser | Lys | Val | Gln | Gln 10 | Leu | Val | Ser | Xaa | Leu 15 | Gly |
| 55 | Leu | Val | Thr | Phe 20 | Leu | Leu | Asn | His | Ser 25 | Ala | Ala | Gly | Gly | Ser 30 | Pro | Gln |
| 40 | His | Arg | Trp 35 | Leu | Leu | Leu | Xaa | | | | | | | | | |
| 45 | (2) | INF | | TION SEQU | | _ | | | 318: TICS | : | | | | | | |
| 50 | | | | (| A) L B) T D) T | ENGT YPE : YPOL | H: 7 ami OGY: | 2 am no a lir | cni cid | acid | | : 31 | 3: | | | |
| | M = 1 | Ť | | | | | | | | - | | | | | | _ |
| <i>-</i> - | 1 | | | | 5 | | | - | Leu | 10 | | | | | 15 | |
| 55 | Pro | His | Val | Val 20 | Ser | Glu | His | Leu | Phe 25 | | His | His | Asn | Pro 30 | Arg | His |
| 60 | Pro | Val | Ile 35 | | Pro | Phe | Pro | Pro 40 | Phe | His | Leu | Ile | Ser 45 | Суѕ | Ser | Val |

WO 98/54963

Note that we have a

| | Ser | Ala 50 | Ser | Thr | Trp | His | Leu 55 | Gly | ∃lu | Хаа | Leu | Leu 60 | Leu | Leu | Val | Pro |
|----|-----------|-----------|-----------|-----------|----------------------|----------------------|---------------------|-------------------------------------|--------------------|-----------|-----------|-----------|----------------|-----------|-----------|-----------|
| 5 | Ile 65 | Ala | Pro | Ser | Val | Trp 70 | Ser | Xaa | | | | | | | | |
| 10 | (2) | | | SEQUI | ENCE | CHAI | RACT! | JO: 3 ERIST | rics | | | | | | | |
| 15 | | | (xi) | (| B) T D) T | YPE: CPOL | ami: OGY: | 2 am no a line PTIOM | cid ear | | | : 319 |) : | | | |
| | Met 1 | Glu | Gln | Gly | Gly 5 | Gly | Pro | Arg | Leu | Leu 10 | Leu | Leu | Ile | Pro | Gly 15 | Leu |
| 20 | Leu | His | Asn | Thr 20 | . ድረኪ | Leu | Ala | Arg | Pro 25 | Gly | ЛЗР | Phe | Pro | Ala 30 | Gln | Gly |
| 25 | Thr | Thr | Glu 35 | Asn | Thr | Glu | Cys | Gln 40 | Gly | Ser | Pro | Ser | Pro 45 | Ile | Ser | His |
| 25 | Leu | Gly 50 | Lys | Val | Arg | Ser | Leu 55 | Asp | Ser | Asn | Thr | Gln 60 | Ile | Xaa | | |
| 30 | (2) | INF | ORMA' | NOIT | FOR | SEQ | ID 1 | 4O: 3 | 320: | | | | | | | |
| 35 | | | | (| A) L B) T D) I | ENGT YPE: OPOL | H: 2 ami OGY: | ERIS 86 a no a lin PTIO | mino cid ear | aci | | : 32) | O : | | | |
| 40 | Met 1 | Pro | Leu | Leu | Phe | Phe | Ser | Val | Ser | Thr 10 | Leu | Phe | Ser | Gly | Ser 15 | Val |
| | Thr | Leu | Gln | Gln 20 | Arg | Gly | Met | Phe | Leu 25 | Pro | Trp | Thr | Gly | Thr 30 | Gly | Glu |
| 45 | Gln | Val | Lu 35 | Ala | Len | Lesi | Trp | Pro 40 | Arg | Phe | Glu | Leu | 11e 45 | Leu | Glu | Met |
| 50 | Asn | Val 50 | | Ser | Val | Arg | Ser 55 | Thr | Asp | Pro | Gln | Arg 60 | Leu | Gly | Gly | Leu |
| 30 | Asp 65 | | Arg | Pro | His | Tyr 70 | lle | Thr | Arg | Arg | Tyr 75 | Ala | Glu | Phe | Ser | So: 80 |
| | | | | ÷ . | | | | | 1.5% | | | | | 11.7 | | |
| 60 | Ala | Ala | :[1] | Phe | Jags. | | Ai i | Lys | (31ta | Gln | I on i | 7.11 | l ner | 101 | ī i 🤃 | A. n. |

| | | | 115 | | | | | 120 | | | | | 135 | | | | |
|----|------------|------------|------------|------------|------------|----------------------|------------------|---------------|------------|------------|------------|------------|------------|------------|------------|------------|---|
| 5 | Asn | Tyr 130 | Asp | Met | Met | Leu | Gly 135 | Val | Leu | Met | Glu | Arg 140 | Ala | Ala | Asp | App | |
| J) | Ser 145 | Lys | Glu | Val | Glu | Ser 150 | Phe | Gìn | Gln | Leu | Leu 155 | Asn | Ala | Arg | Thr | Gln 160 | |
| 10 | Glu | Phe | Ile | Glu | Glu 165 | Leu | Leu | Ser | Pro | Pro 170 | Phe | Gly | Gly | Leu | Val 175 | Ala | |
| | Phe | Val | Lys | Glu 180 | Ala | Glu | Ala | Leu | Ile 135 | Glu | Arg | Gly | Gln | Ala 190 | Glu | Arg | |
| 15 | Leu | Arg | Gly 195 | Glu | Glu | Ala | Arg | Val 200 | Thr | Gln | Leu | Ile | Arg 205 | Gly | Phe | Gly | |
| 20 | Ser | Ser 210 | Trp | Lys | Ser | Ser | Val 215 | Glu | Ser | Leu | Ser | Gln 220 | Asp | Val | Met | Arg | |
| | Ser 225 | Phe | Thr | Asn | Phe | Arg 230 | Asn | Gly | Thr | Ser | lle 235 | Ile | Gln | Gly | Ala | Leu 240 | |
| 25 | Thr | Gln | Leu | Ile | Gln 245 | Leu | Tyr | His | Arg | Phe 250 | His | Arg | Val | Leu | Ser 255 | Gln | |
| 20 | | | | 260 | | Leu | | | 265 | | | | | 270 | Ile | His | |
| 30 | His | Leu | Met 275 | Val | Glu | Leu | Lys | Lys 280 | His | Lys | Pro | Asn | Phe 285 | Xaa | | | |
| 35 | (2) | INF | ORMA' | rion | FOR | SEQ | I DI | 40: I | 321: | | | | | | | | |
| | | | (1) | | | CHA ENGT | | | | | s | | | | | | |
| 40 | | | (xi) | (| D) T | YPE: OPOL E DE | OGY : | lin | ear | EQ I | D NO | : 32 | 1: | | | | |
| 45 | Met 1 | Phe | Arg | | | Arg | | | | | | Tyr | Pro | | Gln 15 | | |
| 73 | Leu | Leu | Gln | Val 20 | Leu | Val | Val | Met | Tyr 25 | Gln | Val | Leu | Gln | Val 30 | Trp | Glu | |
| 50 | Leu | Pro | Trp 35 | Pro | Glu | Leu | Ile | His 40 | Leu | Gln | Gly | Ile | Val 45 | Pro | Thr | Asp | |
| | Gln | Leu 50 | His | Leu | Lys | Gln | Xaa 55 | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | | |
| | (2) | INF | ORMA | rion | FOR | SEQ | ID 1 | 1 0: I | 322: | | | | | | | | • |
| 60 | | | (i) | | | CHAI ENGT | | | | | s | | | | | | |

WO 98/54963 PCT/US98/11422

| | | | (xi) | (| U) T | OPOL | OGY : | no a lin PTIO | ear | EQ I: | D N' | : 32: | 2: | | | |
|-----|-----------|-----------|------------|------------|--------------|--------------|---------------|---------------------|--------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|
| 5 | Asp 1 | Phe | Val | Pro | Val 5 | Leu | Val | Phe | Val | Leu 10 | Ile | Lys | Ala | Asn | Pro 15 | Pro |
| 10 | Cys | Leu | Leu | Ser 20 | Thr | Val | Gln | Тут | Ile 25 | Ser | Ser | Phe | Тут | Ala 30 | Ser | Cys |
| • • | Leu | Ser | Gly 35 | Glu | Glu | Ser | Tyr | Trp 40 | Trp | Met | Gln | Fhe | Thr 45 | Ala | Ala | Val |
| 15 | Glu | Phe 50 | Ile | Lys | Thr | Ile | Asp 55 | Азр | Arg | Lys | Xaa | | | | | |
| 20 | (2) | | OPMA' | SEQU (| ENCE A) L | CHA: ENGT | RACTI H: 1 | | rics mino | | ds | | | | | |
| 25 | | | (xi) | (| [)) T | OPOL | CGY : | lin | ear | EQ I | D NC | : 32 | 3: | | | |
| | Met 1 | His | Pro | Ala | Arg 5 | Lys | Leu | Leu | Ser | Leu 10 | Leu | Phe | Leu | Ile | Leu 15 | Met |
| 30 | Gly | Thr | Glu | Leu 20 | Thr | Gln | Asp | Ser | Ala 25 | Ala | Pro | Asp | Ser | Leu 30 | Leu | Arg |
| 35 | Ser | Ser | Lys 35 | Gly | Ser | Thr | Arg | Gly 40 | Ser | Leu | Ala | Ala | 11e 45 | Val | Ile | Trp |
| | Arg | Gly 50 | Lys | Ser | Glu | Ser | Arg 55 | Ile | Ala | Lys | Thr | Pro 60 | Gly | Ile | Phe | Arg |
| 40 | Gly 65 | Gly | Gly | Thr | Leu | Val 70 | Leu | Pro | Pro | Thr | His 75 | Thr | Pro | Glu | Trp | Let 80 |
| | Ile | Lêu | Pro | Leu | 31y 85 | Tie | Thr | Len | Pro | Leu 90 | Gly | Ala | Pro | Glu | Thr | Gly |
| 45 | Bly | Gly | Asp | Cys 100 | Ala | Ala | Glu | Thr | Trp 105 | Lys | Gly | 3e1 | Jin | Arg 110 | Ala | زنگ |
| 50 | Gln | Leu | Cys 115 | Ala | Leu | Leu | Ala | Хаа 120 | | | | | | | | |
| | (2) | DE | িলপুর্ | T TON | فاع | TF I | rri, i | · • · | ···• | | | | | | | |

| | Phe 1 | Phe | Leu | Val | Val 5 | Phe | Ser | Leu | Ser | Phe 10 | Xaa | Pro | Ser | Val | Leu 15 | Thr | |
|----|----------|-----------|-----------|-------------|-----------------------|------------------------|----------------------|---------------------|---------------------|-----------|------|-------|-----------|-----------|-----------|-----|--|
| 5 | Ser | Pro | Val | His | Xaa | Pro | His | Cys | Cys 25 | Gln | Xaa | Asp | Xaa | Ile 30 | Leu | Phe | |
| | Lys | Asn | Thr 35 | Leu | Xaa | Xaa | Phe | Xaa 40 | Ala | Lys | Tyr | Хаа | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| | (2) | INF | | | | | | | | | | | | | | | |
| 15 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 5 ami CGY: | 9 am no a lin | ino cid ear | acid | | : 32 | 5 : | | | | |
| 20 | Met 1 | Phe | Ser | Arg | Thr 5 | Ser | Asn | Phe | Trp | Thr 10 | Phe | Phe | Phe | Gln | Phe 15 | Leu | |
| 25 | Ile | Phe | Lys | Va1 20 | Phe | Leu | Val | Leu | Lys 25 | Asn | Xaa | Phe | Thr | Ser 30 | Gln | Lys | |
| | Ile | Xaa | Xaa 35 | Il€ | Xaa | Xaa | Glu | Lys 40 | Pro | Lys | Lys | Lys | Lys 45 | Xaa | Arg | Gly | |
| 30 | Gly | Arg 50 | Ala | Pro | Ser | Pro | Gln 55 | Gly | Gly | Pro | Xaa | | | | | | |
| 35 | (2) | INF | | SEQUI () | ENCE A) L | CHAI ENGTI | RACT: H: [1 | | rics ino | | S | | | | | | |
| 40 | | | (xi) |) SEQI | | | | lin PTIO | | EQ II | ои с | : 326 | 5: | | | | |
| | Met 1 | Gly | Leu | Leu | Ile 5 | Phe | Met | Leu | Leu | Ile 10 | Gly | Ile | His | Ser | Gln 15 | Cys | |
| 45 | Ser | Xaa | | | | | | | | | | | | | | | |
| 50 | (2) | INFO | ORMAT | noin | FOR | SEQ | ID N | VO: 3 | 327 : | | | | | | | | |
| 55 | | | | (| A) L: B) T D) T | ENGTI YPE: OPOLO | H: 8 ami: OGY: | 7 am no a lin | ino d cid ear | acid | | : 327 | 7: | | | | |
| 60 | Met 1 | Val | Leu | Phe | Cys 5 | Phe | Val | Leu | Phe | Cys 10 | Phe | Val | Phe | Glu | Met 15 | Asp | |

| | Ser | Ser | ser | Va1 20 | Thr | GIn | Ala | Gly | 25 25 | Gin | Trp | Cys | Asp | Leu 30 | Gly | Ser |
|-------------|-----------|------------|------------|------------|--------------|---------------|-------------|------------------------------|-------------|-----------|-----------|------------|------------|------------|-----------|-----------|
| 5 | Leu | Gln | Ala 35 | Pro | Pro | Pro | Gly | Phe 40 | Ser | Pro | Phe | Ser | ∵ys 45 | Leu | Ser | Let |
| | Pro | Ser 50 | Ser | Trp | Asp | Tyr | Arg 55 | Arg | Pro | Pro | Pro | Arg 60 | Pro | Ala | Asn | Phe |
| () | Leu 65 | Tyr | Phe | Leu | Val | Glu 70 | Thr | Gly | Phe | His | His 75 | Val | Ser | Gln | Asp | G1; 80 |
| 15 | Leu | Asp | Leu | Leu | Thr 85 | Ser | Xaa | | | | | | | | | |
| | (2) | INF | ORMA: | noin | FOR | SEQ | ID 1 | NO:] | 328: | | | | | | | |
| 20 | | | (i) . | (| A) L B) T | ENGT YPE : | H: 5 ami | ERIS' 33 a no a lin | mino cid | | ds | | | | | |
| 25 | | | (xi) | SEQ | JENC: | E DE | SCRI | PTIO | N: SI | EQ I | D NO | : 32 | 8 : | | | |
| | Met 1 | Ser | Thr | Lys | Lys 5 | Leu | Cys | Ile | Val | Gly 10 | Gly | Ile | Leu | Leu | Val 15 | Phe |
| 30 | Gln | Ile | Ile | Ala 20 | Phe | Leu | Val | Gly | Gly 25 | Leu | Ile | Ala | Pro | Gly 30 | Pro | Thi |
| | Thr | Ala | Val 35 | Ser | Тут | Met | Ser | Val 40 | Lys | Cys | Val | Asp | Ala 45 | Arg | Lys | Ası |
| 35 | His | His 50 | Lys | Thr | Lys | Trp | Phe 55 | Val | Pro | Trp | Gly | Pro 60 | Asn | His | Cys | Ası |
| 4 () | Lys 65 | Ile | Arg | Asp | Ile | Glu 70 | Glu | Ala | Ile | Pro | Arg 75 | Glu | Ile | Glu | Ala | Ası 80 |
| | Asp | Ile | Val | Phe | Ser 35 | Val | His | Il⊖ | Pro | Leu 90 | Pro | His | Met | Glu | Met 95 | Se: |
| 1 5 | Pro | Trp | Phe | Gln 100 | | Met | | Phe | | | Gln | Leu | | 11⊕ 110 | | ₽h∙ |
| | Lys | Leu | Asn 115 | | Gln | Ile | Arg | Glu 120 | Asn | Ala | Glu | Val | Ser 125 | Met | Азр | Va. |
| 50 | Ser | Leu 130 | | Tyr | Arg | Asp | Asp 135 | Ala | Phe | Ala | Glu | Trp 140 | Thr | Glu | Met | Al. |
| | His | CJ11 | Ara | 7,79.7 | F +- = | 26.4 | T | • | ÷.,. | 194.4.4 | mbe | 5 4÷ ÷ | ***** | ٠ | ٠. | ÷ |
| | | | | | | | | | | | | | | | | |
| 50 | Mert, | Jlu | ile | Gly 180 | Ner | Val | Ala | H1:3 | 193 185 | | Tyr | Leg 1 | lmi | Asn 196 | Ilv | Ar |

A Company of the Action Action

| | Leu | Pro | Val 195 | Asn | Glu | Lys | Lys | Lys 200 | Ile | Asn | Val | Зly | 11e 205 | Gly | Glu | Ile | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| 5 | Lys | Asp 210 | Ile | Arg | Leu | Val | Gly 215 | Ile | His | Gln | Asn | Gly 220 | Gly | Phe | Thr | Lys | |
| 10 | Val 225 | Trp | Phe | Ala | Met | Lys 230 | Thr | Phe | Leu | Thr | Pro 235 | Ser | Ile | Phe | Ile | Ile 240 | |
| | Met | Val | Trp | Tyr | Trp 245 | Arg | Arg | Ile | Thr | Met 250 | Met | Ser | Arg | Pro | Pro 255 | Val | |
| 15 | Leu | Leu | Glu | Lys 260 | Val | Ile | Phe | Ala | Leu 265 | Gly | Ile | Ser | Met | Thr 270 | Phe | Ile | |
| | Asn | Ile | Pro 275 | Val | Glu | Trp | Phe | Ser 280 | Ile | Gly | Phe | Asp | Trp 285 | Thr | Trp | Met | |
| 20 | Leu | Leu 290 | Phe | Gly | qzA | Ile | Arg 295 | Gln | Gly | Ile | Phe | Tyr 300 | Ala | Met | Leu | Leu | |
| 25 | Ser 305 | Phe | Trp | Ile | Ile | Phe 310 | Çλa | Gly | Glu | His | Met 315 | Met | Asp | Gln | His | Glu 320 | |
| | Arg | Asn | His | Ile | Ala 325 | Gly | Tyr | Trp | Lys | Gln 330 | Val | Gly | Pro | Ile | Ala 335 | Val | |
| 30 | Gly | Ser | Phe | Cys 340 | Leu | Phe | Ile | Phe | Asp 345 | Met | Cys | Glu | Arg | Gly 350 | Val | Gln | |
| | Leu | Thr | Asn 355 | Pro | Phe | Tyr | Ser | Ile 360 | Trp | Thr | Thr | Asp | Ile 365 | Gly | Thr | Glu | |
| 35 | Leu | Ala 370 | Met | Ala | Phe | Ile | 11e 375 | Val | Ala | Gly | Ile | Cys 380 | Leu | Cys | Leu | Tyr | |
| 40 | Phe 385 | Leu | Phe | Leu | Cys | Phe 390 | Met | Val | Phe | Gln | Val 395 | Phe | Arg | Asn | Ile | Ser 400 | |
| | Gly | Lys | Gln | Ser | Ser 405 | Leu | Pro | Ala | Met | Ser 410 | Lys | Val | Arg | Arg | Leu 415 | His | |
| 45 | Tyr | Glu | Gly | Leu 420 | Ile | Phe | Arg | Phe | Lys 425 | Phe | Leu | Met | Leu | 11e 430 | Thr | Leu | |
| | Ala | Cys | Ala 435 | Ala | Met | Thr | Val | 11e 440 | Phe | Phe | Ile | Val | Ser 445 | Gln | Val | Thr | |
| 50 | Glu | Gly 450 | His | Trp | Lys | Trp | Gly 455 | Gly | Val | Thr | Val | Gln 460 | Val | Asn | Ser | Ala | |
| 5 5 | Phe 465 | Phe | Thr | Gly | Ile | Tyr 470 | Gly | Met | Trp | Asn | Leu 475 | Tyr | Val | Phe | Ala | Leu 480 | |
| | Met | Phe | Leu | Tyr | Ala 485 | Pro | Ser | His | Lys | Asn 490 | Tyr | Gly | Glu | Asp | Gln 495 | Ser | |
| 60 | Asn | Gly | Met | Gln 500 | Leu | Pro | Cys | Lys | Ser 505 | Arg | Glu | Asp | Cys | Ala 510 | Leu | Phe | |

| | Val | . Ser | 515 515 | Leu | ı Tyr | Gln | . Glu | Leu 520 | | Ser | Ala | . Ser | Lys 525 | | Ser | Ph: |
|----|------------|------------|------------|------------|-------------------------|--------------------------|--------------------------------------|---------------------|-----------------------|------------|------------|------------|-----------------|------------|------------|------------|
| 5 | īle | Asn 530 | |) Asn | Ala | Ala | Ser 535 | Gly | Ile | Xaa | | | | | | |
| 10 | (2) | INF | | | | | ID: | | | | | | | | | |
| 15 | | | | 1 | (A) I (B) T (D) T | ENGT TYPE : TOPC L | RACT 'H: 2 ami OGY: SCRI | 02 a no a lin | umino noid near | aci | | ·: 32 | 9: | | | |
| 20 | Met 1 | Gly | Ilə | Ala | Leu 5 | Ala | Val | Leu | Gly | Trp 10 | Leu | Ala | Val | Met | Leu 15 | Oys |
| | Cys | Ala | Leu | Pro 20 | Met. | Trp | Arg | Val | Thr 25 | Ala | Phe | Ile | Gly | Ser 30 | Asn | Ele |
| 25 | Val | Thr | Ser 35 | Gln | Thr | Ile | Trp | Glu 40 | Gly | Leu | Trp | Met | Asn 45 | Cys | Val | Val |
| | Gln | Ser 50 | Thr | Gly | Gln | Met | Gln 55 | Cys | Lys | Val | Тут | qzA 00 | Ser | Leu | Leu | Ala |
| 30 | Leu 65 | Pro | Gln | Anp | Leu | Gln 70 | Ala | Ala | Arg | Ala | Leu 75 | Val | Ile | Ile | Ser | 11e 80 |
| 35 | Ile | Val | Ala | Ala | L++1: 85 | Gly | Val | Leu | Leu | Ser 90 | Val | Val | Gl _Y | Gly | Lys 95 | Cys |
| 55 | Thr | Asn | Cyn | Leu 100 | Glu | Asp | Glu | Ser | Ala 105 | Lys | Ala | Lys | Thr | Met 110 | Ile | Val |
| 40 | Ala | Gly | Val 115 | Val | Fhe | Letu | Leu | Ala 120 | Gly | Leu | Met | Val | 11e 125 | Val | Pro | Val |
| | Ser | Trp 130 | Thr | Ala | His | Apri | Ile 135 | Ile | Gln | Asp | Phe | Tyr 140 | Asn | Pri | L∻u | Val |
| 45 | Ala 145 | dur | ЗІу | 31:: | Lyst | Алу 150 | Glu | Met | 317 | Ala | Ser 155 | Leu | Tyrz | Val | Gly | Trp 160 |
| 50 | Ala | Ala | Ser | Gly | Leu 165 | Lett | Leu | Leu | Gly | Gly 170 | G!γ | Leu | Leu | Cys | Cys 175 | Asn |

Cys Pro Pro Arg Thr Asp Lys Pro Tyr Ser Ala Bys Tyr Ser Ala Ala 180 185 190

40 IMPOPMATION FOR DEL ID NOT 1809-

| | | | (i) | | A) L | .F N GT | RACT H: 2 ami | :63 a | mino | | ds | | | | | |
|-----|------------|------------|------------|------------|------------|----------------|---------------------|------------|------------|------------|------------|------------|------------|------------|-----------------------|------------|
| 5 | | | (xi) | | | | .OGY: .SCRI | | | EQ I | D NO | : 33 | 0: | | | |
| | Met 1 | Ala | Thr | Val | Thr 5 | Ala | Thr | Thr | Lys | Val 10 | Pro | Glu | Ile | Arg | Asp 15 | Val |
| 10 | Thr | Arg | Ile | Glu 20 | Arg | Ile | Gly | Ala | His 25 | Ser | His | Ile | Arg | Glγ 30 | Leu | Gly |
| 15 | Leu | Asp | Asp 35 | Ala | Leu | Glu | Pro | Arg 40 | Gln | Ala | Ser | Gln | Gly 45 | Met | Val | Gl |
| 10 | Gln | Leu 50 | Ala | Ala | Arg | Arg | Ala 55 | Ala | Gly | Val | Val | Leu 60 | Glu | Met | Ile | Arg |
| 20 | Glu 65 | Gly | Lys | Ile | Ala | Gly 70 | Arg | Ala | Val | Leu | Ile 75 | Ala | Gly | Gln | Pro | G13 80 |
| | Thr | Gly | Lys | Thr | Ala 85 | Ile | Ala | Met | Gly | Met 90 | Ala | Gln | Ala | Leu | Gl _/ 95 | Pro |
| 25 | Asp | Thr | Pro | Phe 100 | Thr | Ala | Ile | Ala | Gly 105 | Ser | Glu | Ile | Phe | Ser 110 | Leu | Glu |
| 30 | Met | Ser | Lys 115 | Thr | Glu | Ala | Leu | Thr 120 | Gln | Ala | Phe | Arg | Arg 125 | Ser | Ile | Gly |
| | Val | Arg 130 | Ile | Lys | Glu | Glu | Thr 135 | Glu | Ile | Ile | Glu | Gly 140 | Glu | Val | Val | Glu |
| 35 | Ile 145 | Gln | Ile | Asp | Arg | Pro 150 | Ala | Thr | Gly | Thr | Gly 155 | Ser | Lys | Val | Gly | Lys 160 |
| | Leu | Thr | Leu | Lys | Thr 165 | Thr | Glu | Met | Glu | Thr 170 | Ile | Tyr | Asp | Leu | Gly 175 | Thr |
| 40 | Lys | Met | Ile | Xaa 180 | Ser | Leu | Thr | Lys | Asp 185 | Lys | Val | Gln | Ala | Gly 190 | Asp | Val |
| 45 | Ile | Thr | Ile 195 | Asp | Lys | Ala | Thr | Gly 200 | Lys | Ile | Ser | Lys | Leu 205 | Gly | Arg | Ser |
| , , | Phe | Thr 210 | Arg | Ala | Arg | Glu | Leu 215 | Arg | Arg | Tyr | Gly | Leu 220 | Pro | Asp | Gln | Val |
| 50 | Arg 225 | Ala | Val | Pro | Arg | Trp 230 | Gly | Ala | Pro | Glu | Thr 235 | Gln | Gly | Gly | Gly | Ala 240 |
| | His | Arg | Val | Pro | Ala 245 | Arg | Asp | Arg | Arg | His 250 | Gln | Leu | Ser | His | Pro 255 | Gly |
| 55 | Leu | Pro | Gly | Ala 260 | Leu | Leu | Arg | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

60 (2) INFORMATION FOR SEQ ID NO: 331:

| 5 | | | | | (A) ; (B) ′ (D) ′ | Leng Type Topoi | TH: : am LOGY | 260 a ino a : lir | amind acid near | o ac: | | D: 3. | 31: | | | |
|----|------------|------------|------------|------------|-------------------------|-----------------------|---------------------|-------------------------|-----------------------|------------|------------|------------|------------|------------|------------|------------|
| 10 | Met 1 | Leu | . Ala | ı Leu | Leu 5 | | Letu | Ser | Gln | Ala 10 | | ı Asn | ı Ile | r Leu | Leni 15 | |
| | Leu | Lys | Glγ | Leu 20 | | . Pro | Ala | Glu | I Le 25 | | Ala | - Val | Cys | 30 | | Gl |
| 15 | Asn | Phe | Asn 35 | val | Ala | His | Gly | Leu 40 | | Trp | Ser | Tyr | Tyr 45 | Tie | Gly | T','1 |
| | Leu | Arg 50 | Leu | Ile | Leu | Fre | Glu 55 | | Gln | Ala | Arg | Ila 60 | | Thr | Tyr | Ası |
| 20 | Gln 65 | His | Tyr | Asn | Asn | Leu 70 | Leu | Arg | Gly | Ala | Val 75 | | Gln | . Ara | Leu | Тут 8(|
| 25 | Ile | Leu | Leu | Pro | Leu 85 | Asp | Cys | Gly | Val | Pro 90 | Asp | Asn | Leu | Ser | Меt 95 | Alā |
| | Asp | Pro | Asn | Ile 100 | Arg | Phe | Leu | Asp | Lys 105 | Leu | Pro | Gln | Gln | Thr 110 | Gly | Asp |
| 30 | Arg | Ala | Gly 115 | Ile | Lys | Asp | Arg | Val 120 | Tyr | Ser | Asn | Ser | Ile 125 | Tyr | Glu | Let |
| | Leu | Glu 130 | Asn | Gly | Gln | Arg | Ala 135 | Gly | Thr | Cys | Val | Leu 140 | Glu | Tyr | Ala | Thr |
| 35 | Pro 145 | Len | Gln | Thr | Leu | Phe 150 | Ala | Met | Ser | Gln | Tyr 155 | Ser | Gln | Ala | Gly | Phe |
| 40 | Ser | Gly | Glu | Asp | Arg 165 | Leu | Gľu | Gln | Ala | Lys 170 | Leu | Phe | Cys | Arg | Thr 175 | Leu |
| | Glu | Asp | He | Leu 180 | Ala | Asp | Ala | Pro | Glu 185 | Ser | Gln | Asn | Asn | Cys 190 | Arq | Lesu |
| 15 | Ile | Ala | Tyr 195 | Gln | Glu | Pro | Ala | Asp 200 | Asp. | Der | Ser | Phe | Jer 205 | Lou | Ser | Gln |
| | Glu | Val 210 | Leu | Arg | His | Leu | Arg 215 | Gln | Glu | Glu | Lys | Glu 220 | Glu | Val | Thr | Val |
| 50 | Gly 225 | Ser | Leu | Lys | Thr | Ser 230 | Ala | Val | Pro | Ser | Thr 235 | Ser | Thr | Met | Ser | Gln 240 |
| | 4115 | D= . | 21., | t | | . . | | | | | | | | | | |

| | (<u>-</u>) | III. | rdri .A .1 | , ICIN | rok | SEZ | 10: | 1(); .: | تندوه | | | | | | | |
|------------|--------------|------------|-----------------------|------------|----------------------|-------------------------|---------------------|-----------------------------|---------------------|-----------|--------------------|------------|-----------|------------|-----------|------------|
| 5 | | | (i) S | (. () | A) L B) T D) T | ENGT. YPE : OPC-L | H: 4 ami OGY: | 8 am no a lin | ino d cid ear | acid | | | | | | |
| | | | (xi) | SEQ | UENC: | E DE: | SCRI: | PTIO | 1: SI | EQ II | C ₁ M C | : 332 | 2 : | | | |
| 10 | Met I | Thr | Pro | Gln | Lys 5 | Pro | Ala | Leu | Ala | Val 10 | Leu | Leu | Leu | Glu | Val 15 | Pro |
| | Leu | Leu | Leu | Thr 20 | Leu | Ser | Val | Leu | Lys 25 | Lys | Arg | Cys | Leu | Val 30 | Thr | Cys |
| 15 | Glu | Pro | Thr 35 | Ser | Arg | Phe | Val | Ser 40 | Cys | Asp | Leu | Pro | Leu 45 | Ser | Val | Хаа |
| 20 | | | | | | | | | | | | | | | | |
| 25 | (2) | IIF | DRMAT | | | | | | | | | | | | | |
| 23 | | | (1): | (| A) L B) T | eigt Ype: | H: 3 ami | ERIS 34 a no a lin | mino ciđ | | ds | | | | | |
| 20 | | | (K1) | SEQ | UENC: | E DE | SCRI | CITA | N: S1 | EQ II | си с | : 33 | 3: | | | |
| 30 | Met 1 | Ala | Ala | Ala | Ala 5 | Trp | Leu | Gln | Val | Leu 10 | Pro | Val | Ile | Leu | Leu 15 | Leu |
| 35 | Leu | Gly | Alā | His 20 | Pro | Ser | Pro | Leu | Ser 25 | Phe | Phe | Ser | Ala | Gly 30 | Pro | Ala |
| | Thr | Val | Ala 35 | Ala | Ala | Asp | Arg | Ser 40 | Lys | Trp | His | Ile | Pro 45 | Ile | Pro | Ser |
| 40 | Gly | Lys 50 | Asn | Tyr | Phe | Ser | Phe 55 | Gly | Lys | Ile | Leu | Phe 60 | Arg | Asn | Thr | Thr |
| 45 | Ile 65 | Phe | Leu | Lys | Phe | Asp 70 | Gly | Glu | Pro | Cys | Asp 75 | Leu | Ser | Leu | Asn | Il∈ 80 |
| | Thr | Trp | Tyr | Leu | Lys 85 | Ser | Ala | Asp | Суз | Тут 90 | Asn | Glu | Ile | Tyr | Asn 95 | Phe |
| 50 | Lys | Ala | Glu | Glu 100 | Val | Glu | Leu | Tyr | Leu 105 | Glu | Lys | Leu | Lys | Glu 110 | Lys | Arg |
| <i>5.5</i> | | | Ser 115 | | | | | 120 | | | | | 125 | | | |
| 55 | Ser | Glu 130 | Leu | Phe | Lys | Thr | Gln 135 | Thr | Phe | Ser | Gly | Asp 140 | Phe | Met | His | Arg |
| 60 | Leu 145 | Pro | Leu | Leu | Gly | Glu 150 | Lys | Gln | Glu | Ala | Lys 155 | Glu | Asn | Gly | Thr | Asn 160 |

| | Leu | Thr | Phe | He | Gly 165 | Asp | Lys | Thr | Ala | Met 170 | His | Glu | Pro | Leu | Gln 175 | Thr |
|-----|------------|------------|--------------|------------|----------------------------|-------------------------------|------------------------------|-------------------------------------|-------------------------------|------------|--------------|------------|------------|-------------|------------|-------------|
| 5 | Trp | Gln | Агр | Ala 180 | Pro | Tyr | Ilo | Pho | Ile 185 | Val | His | Ile | Gly | 11e 190 | Sor | Ser |
| | Ser | Lys | Glu 195 | Ser | Ser | Lys | Glu | Asn 200 | Ser | Leu | Ser | Asn | Leu 205 | Pho | Thr | Met |
| 10 | Thr | Val 210 | Glu | Val | Lys | Gly | Pro 215 | Tyr | Glu | Tyr | Leu | Thr 220 | Leu | Glu | Азр | Tyr |
| 1.5 | Pro 225 | | Met | Ile | Phe | Phe 230 | Met | Va l | Met | Cys | Il- 235 | Val | Tyr | Vil | Leu | Phe- 240 |
| 15 | Gly | Val | Leu | Trp | Leu 245 | | Trp | Ser | Ala | Суз 250 | | Trp | Arq | Asp | Leu 255 | Len |
| 20 | Arg | Ila | Gln | Phe 260 | | Ile | Gly | Ala | Val 265 | | Fhe | Lau | Gly | Met 270 | Leu | Glu |
| | Lys | Ala | . Val 275 | | Tyr | Ala | Glu | Phe 280 | | Asn | Ile | Arg | Tyr 285 | Lys | Gly | Xaa |
| 25 | Ser | Val 290 | | Gly | Ala | Leu | . Ile 295 | | Ala | . Glu | . Leu | Leu 300 | Ser | Ala | Val | Lys |
| 30 | Arg 305 | | · Leu | ı Ala | Arg | Thr 310 | | ı Val | Ile | · Ile | • Val 315 | | Leu | Gly | Tyr | Gly 320 |
| 50 | Ile | e Val | Lys | Pro | Arg 325 | | ı Glı | ı Ser | Let | 330 | | Arg | Leu | . Xaa | | |
| 35 | (2) | ı IN | °ORM/ | 10ITZ | 1 FOF | R SE(|) ID | NO: | 334: | : | | | | | | |
| 40 | | | (i) | SEÇI | JENCI (A) (B) (D) | E CHI LENG TYPE TOPO | ARAC' TH: : am LOGY | TERIS 200 ino : li IPTI | STIC: amin acid near | S: o ac | | D: 3 | 34: | | | |
| 45 | | t Va ! | l Les | а Ка | | 1 Va 5 | l Th | r Le | a Gl | y De 1 | u Al. G | a Leb | ı Phe | e Thi | r Les 1 | ı Çys S |
| | Gl | y Ly | s Ph | e Ly. D | | g Tr | p Ly | ടെ പ്ല | ս As 2 | | y Al | a Ph | e Lo | a Ler 30 | ı Il- | e Thr |
| 50 | Αl | a Ph | e Le | | r Va | l Le | u Il | e Tr 4 | | l Al | a Tr | p Me | t Th 4 | | t Ty | r Leu |
| | ٠. | | . • | . •• | | - | | | | . • | | ₹ , | . • | * | | • . |
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From the Den Arather The Alaids Photogravian in the Arather 60

 $X_{k} = \{ e_{ij} \in \mathcal{X}_{k} \mid i \in \mathcal{X}_{k} \in \mathcal{X}_{k} \}$

| | Arg | FIO | 1111 | 100 | | 1111 | Arg | Arg | 105 | Pro | GLY | Cys | GIY | Arg 110 | Arg | Pro | | |
|-----|------------|------------|----------------|------------|--------------|-----------------------------|-------------|---------------|----------------|------------|------------|------------|------------|------------|------------|------------|--|---|
| 5 | Ser | Arg | Arg 115 | Thr | Cys | 3er | Cys | Arg 120 | Gly | Fro | Ile | Trp | Arg 125 | Thr | Arg | Pro | | |
| 10 | Ser | Pro 130 | Trp | Met | Asn | Thr | Met 135 | Gln | Leu | Ser | Glu | Gln 140 | Gln | Asp | Phe | Pro | | |
| - , | Thr 145 | Ala | Ala | Trp | Glu | Lys 150 | Asp | Pro | Val | Ala | Ala 155 | Trp | Gly | Lys | Asp | Pro 160 | | |
| 15 | Ala | Leu | Arg | Leu | Glu 165 | Ala | Thr | Cys | Ile | Ser 170 | Gln | Leu | Arg | Trp | Pro 175 | Ser | | |
| | Cys | Ser | Thr | Val 130 | Gly | Pro | Ser | Gln | Leu 185 | Leu | Arg | Gln | Va! | Thr 190 | Gln | Glu | | |
| 20 | Xaa | Thr | Phe 195 | Gly | Glu | 'nЗ | Leu | Xaa 200 | | | | | | | | | | |
| 25 | (2) | INFO | Դ ΕΜ λί | PT/NH | PCP. | 12770 | | aro " |)) (| | | | | | | | | |
| 2.9 | (2) | | | SEQUI | ENCE | CHA | RACT: | ERIS' | rics | | | | | | | | | |
| 30 | | | (;) | (| B) T D) T | ENGT YPE: OPOL | ami OGY: | no a lin | cid ear | | | 2.2 | | | | | | |
| | Met | Leu | | | | E DE Gln | | | | | | | | Leu | Val | Leu | | |
| 35 | 1 | | | | 5 | | | | | 10 | | Dea | | Dea | 15 | Deu | | |
| | Leu | Leu | Ala | Thr 20 | Leu | Leu | Val | Xaa | | | | | | | | | | |
| 40 | (2) | INFO | ORMA: | rion | FOR | SEQ | I DI | 1 0: 1 | 3 3 6 : | | | | | | | | | |
| 45 | | | (i) . | (| A) L B) T | CHA ENGT YPE: OPOL | H: 1 ami | 43 ai no a | mino cid | | ds | | | | | | | |
| | | | | | | E DE. | | | | | | | | | | | | |
| 50 | Met 1 | Thr | Lys | Ala | Leu 5 | Leu | Ile | Tyr | Leu | Val 10 | Ser | Ser | Phe | Leu | Ala 15 | Leu | | |
| | Asn | Gln | Ala | Ser 20 | Leu | Ile | Ser | Arg | Cys 25 | Asp | Leu | Ala | Gln | Val 30 | Leu | Gln | | |
| 55 | Leu | Glu | Asp 35 | Leu | Asp | Gly | Phe | Glu 40 | Gly | Tyr | Ser | Leu | Ser 45 | Asp | Trp | Leu | | - |
| 60 | Cys | Leu 50 | Ala | Phe | Val | Glu | Ser 55 | Lys | Phe | Asn | Ile | Ser 60 | Lys | Ile | Asn | Glu | | |

| | Asn 65 | Ala | Asp | Gly | Ser | Phe 70 | Asp | Tyr | Gly | Leu | Phe 75 | Gln | He | Asn | Ser | His 30 |
|----|-----------|------------|------------|------------|----------------------|-----------------------|---------------------|-----------------------------|-------------------|-----------|-----------|------------|------------|------------|-----------|-----------|
| 5 | L'T. | Tip | Oys | Asn | Xaa 85 | Tyr | Lys | Ser | Tyr | Ser 90 | Glu | Asn | Leu | Cys | His 95 | Val |
| | Asp | Cys | Gln | Asp 100 | Leu | L≃u | Asn | Pro | Asn 105 | Leu | Leu | Ala | Gly | 11e 110 | H13 | Cys |
| 10 | Ala | Lys | Arg 115 | He | Val | Ser | Gly | Ala 120 | Arg | Gly | Met | Asn | Asn 125 | Trp | Val | Arg |
| 15 | Mest | Glu 130 | Xaā | Суз | Thr | Væ1 | Gln 135 | Ala | Gly | His | Ser | Ser 140 | Thr | Gly | Каа | |
| | (2) | LNF | CRMAT | LICN | FOR | SEQ | ID 1 | VO: I | 337: | | | | | | | |
| 20 | | | | (| A) L B) T D) T | FNGT YPE : OPOL | H: 9 ami OGY: | ERIS 5 am no a lin | inc cid ear | acid | | | | | | |
| 25 | Mar | 1 | | | | | | PT'IO | | | | | | • | | . |
| | 1 | Leu | Val | 116 | A1a 5 | CIY | GIÀ | He | Leu | 10 | Ala | Leu | L€u | Leu | Leu 15 | lie |
| 30 | Val | Val | Val | Leu 20 | Cys | Leu | Tyr | Fhe | Lys 25 | Ile | His | Asn | Ala | Leu 30 | Lys | Ala |
| | Ala | Lys | Glu 35 | Pro | Glu | Ala | Val | Ala 40 | Val | Lys | Asn | His | Asn 45 | Pro | Asp | Lys |
| 35 | Val | Trp 50 | Tıp | Ala | Lys | Asn | Ser 55 | Gln | Ala | Lys | Thr | Ile 60 | Ala | Thr | Glu | Ser |
| 40 | Cys 65 | Pro | Ala | Leu | Gln | cys 70 | Cys | Glu | Gly | Tyr | Arg 75 | Met | Cys | Ala | Jer | Phe 80 |
| | Азр | Ser | Len | Pro | Pro 85 | Cys | Суs | Cys | Asp | Ile 9) | Asn | Glu | Sly | Leu | Kaa 95 | |
| 45 | (3) | INF: | ôfma' | rich | FIR | SEO | ID 1 | Note 1 | 338: | | | | | | | |
| | | | | | | | | ERIS' | | : | | | | | | |
| 50 | | | (xi) | (| B) T | YPE: CPOL | ami OGY: | 8 am no a lin PTIO | cid ear | | | : 33 | ₽ ; | | | |
| | | | | | . 1.= | 151.4 | . * . | . ".: | :. | | | | | pro e | | |

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| 5 | (2) INFORMATION FOR SEQ ID NO: 339: |
|----|---|
| 10 | (i) SEQUENCE CHAPACTERISTICS: (A) LENGTH: 39 amino acids (B) TYPE: amino acid (D) TOPCLCGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 339: |
| 15 | Met Leu Val Val Ala Phe Gly Leu Leu Val Leu Tyr Ile Leu Leu Ala l 5 10 15 |
| | Ser Ser Trp Lys Arg Pro Glu Pro Gly Ile Leu Thr Asp Arg Gln Pro 30 30 |
| 20 | Leu Leu His Amp Gly Glu Kaa 35 |
| 25 | (2) INFORMATION FOR SEQ ID NO: 340: |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 71 amino acids (B) TYPE: amino acid |
| 30 | (D) TOPOLOGY: linear (Xi) SUQUENCE DESCRIPTION: SEQ ID NO: 340: |
| | Ser Asp Pro Leu Ala Ser Ala Ser Gln Asn Ala Gly Ile Val Ser Val l 5 10 15 |
| 35 | Gly Leu Cys Thr Arg Pro Gly Pro Gln Phe Lys Asn Ala Gln Pro Pro |
| 40 | Phe Pro Xaa Gln Lys Ala Pro Ara Cys Leu Trp Glu Asn Gln Pro Pro 35 40 45 |
| | Pro Trp Arg Lys Ala Trp Asp Leu Pro Ser His Leu Gly Arg Arg Gly 50 55 60 |
| 45 | Ile Cys Gly Lys Ser Phe Xaa 65 70 |
| | (2) 7)77777777777 |
| 50 | (2) INFORMATION FOR SEQ ID NO: 341: (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 85 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 55 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 341: |
| | Tyr Val Met Ile Phe Lys Lys Glu Phe Ala Pro Ser Asp Glu Glu Leu 1 5 10 15 |
| 60 | Asp Ser Tyr Arg Arg Gly Glu Glu Trp Asp Pro Gln Lys Ala Glu Glu |

| | | | | 20 | | | | | 25 | | | | | 30 | | |
|----|-----------|-----------|-----------|------------------------------|------------------------------|------------------------------|-----------------------------|-------------------------------------|---------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5 | Lys | Arg | Asn 35 | Хаа | Lys | Blu | Leu | Ala 40 | Gln | Arg | Gln | Жаа | Gly 45 | Gly | Gly | Ser |
| ٠, | Pro | Ala 50 | Gly | Ala | Cys | Gly | Gly 55 | Glu | Pro | Суз | Gin | Arg 60 | Leu | Gln | Gly | Gln |
| 10 | Val 65 | Gln | Pro | Pro | His | Arg 70 | Gln | Gly | Ser | Ser | Gln 75 | Arg | Arşı | Ser | Pro | His 80 |
| | Ala | Thr | Gly | Gln | Xaa 85 | | | | | | | | | | | |
| 15 | (2) | INFO | ORMA: | ncia | FOR | SEQ | ID 1 | VO: 1 | 342: | | | | | | | |
| 20 | | | (i). | ປ <u>ວ</u> ຊດ))) | ENCE A) L B) T D) T | CHAI ENGT YPE: CPOL | PACT H: 9 ami CGY: | ERIS 0 am no a lin PTIO | FICS ino sid ear | acid | | : 341 | 2 : | | | |
| 25 | Met 1 | Trp | Asp | Trp | Asp 5 | Trp | Ser | Ala | Pro | Trp 10 | Ser | Trp | Pro | Leu | Trp 15 | Leu |
| 30 | Ser | Leu | Ala | Leu 20 | Val | Cys | Leu | Ser | Ala 25 | Gly | Ala | Lys | Gly | His 30 | Arg | Ala |
| | Ser | Glu | Ala 35 | Gly | His | Ala | Arg | Ala 40 | Leu | Thr | Cys | Glu | Met 45 | Gly | Ser | Glu |
| 35 | Phe | Хаа 50 | Thr | Ala | Хаа | Gly | Leu 55 | Val | Leu | Gly | Хаа | Xaa 60 | Xaa | Trp | Thr | Xaa |
| | Xaa 65 | Asn | Gly | Ser | Ala | Gly 70 | Pro | Glu | Arq | Arg | Gly 75 | Trp | Arg | Pro | Ala | Ala 80 |
| 40 | Phe | Leu | Ala | Val | Phe 85 | Leu | Leu | Gly | Asp | Xa a 90 | | | | | | |
| 45 | (2) | INF | JFMN' | 1:011 | FOR | CEQ | ID: | WJ: 3 | 343: | | | | | | | |
| 50 | | | | (| A) L B) T D) T | FNGT YPE: OPOL | H: 4 ami OGY: | ERIS 8 am no a lin PTIC | ino cid ear | acid | | r 34 | } : | | | |
| | **. • | ÷ + | ** . | *** | • . | | •• | | | | | | | | | |

The Lemma in . For the Arr Lem Kas byo lyo lyo byo lyo lyo $\frac{1}{4} \gamma = \frac{4}{3} \gamma$

| 5 | | | | | | | | | | | | | | | | | | |
|----|-----------|-----------|----------------|--------------------|----------------------|-----------------------|---------------------|---------------------|-------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|--|---|
| | (2) | INF | OR MA (| rion | FOR | SEQ | ID I | NO: 3 | 344: | | | | | | | | | |
| 10 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | H: 5 ami OGY: | 6 am no a lin | ino cid ear | acid | | : 34 | 4 : | | | | | |
| 15 | Met 1 | Суз | Ser | Lys | Asn 5 | Gly | Phe | Leu | Leu | Ala 10 | Trp | Ser | Trp | Asn | Ser 15 | Pro | | |
| 20 | Trp | Leu | Pro | Gln 20 | Ala | Ser | Leu | Ala | His 25 | Gly | Cys | Trp | Gly | Arg 30 | Trp | Met | | |
| | Ser | Asp | Leu 35 | Val | Gly | Cys | Ser | Arg 40 | Glu | Asn | Lys | Cys | Ala 45 | Leu | Arg | Asp | | |
| 25 | His | Ser 50 | Glu | Arg | Val | Gln | Gly 55 | Хаа | | | | | | | | | | |
| 30 | (2) | INF | | rion Seçui (| ENCE | CHAI | RACT | ERIS' | TICS | : aci | đs | | | | | | | |
| 35 | | | (xi) | | E) T | OPCL | OGY : | no a lin PTIO | ear | EQ II | D NO | : 34 | 5 : | | | | | |
| | Ser 1 | Pro | Leu | Хаа | Phe 5 | Cys | Val | Val | Leu | Leu 10 | Leu | Gln | Ala | Ala | Arg 15 | Gly | | |
| 40 | Tyr | Val | Val | Arg 20 | Lys | Pro | Ala | Gln | Ser 25 | Arg | Leu | Asp | Asp | Asp 30 | Pro | Pro | | |
| 45 | Pro | Ser | Thr 35 | Leu | Leu | Lys | Asp | Tyr 40 | Gln | Asn | Val | Pro | Gly 45 | Ile | Glu | Lys | | |
| | Val | Asp 50 | Asp | Val | Val | Lys | Arg 55 | Leu | Leu | Ser | Leu | Glu 60 | Met | Ala | Asn | Lys | | |
| 50 | Lys 65 | Glu | Met | Leu | Lys | Ile 70 | Lys | Gln | Glu | Gln | Phe 75 | Met | Lys | Lys | Ile | Val 80 | | |
| | Ala | Asn | Pro | Glu | Asp 85 | Thr | Arg | Ser | Leu | Glu 90 | Ala | Arg | Ile | Ile | Ala 95 | Leu | | |
| 55 | Ser | Val | Lys | Ile 100 | Arg | Ser | Τγτ | Glu | Glu 105 | His | Leu | Glu | Lys | His 110 | Arg | Lys | | - |
| 60 | Asp | Lys | Ala 115 | His | Lys | Arg | Tyr | Leu 120 | Leu | Met | Ser | Ile | Asp 125 | Gln | Arg | Lys | | |

| | Lys | Met 130 | Leu | Lys | Asn | Leu | Arg 135 | Asn | Thr | Asn | Түг | Asp 140 | Val | Pne | Glu | Lys |
|----|------------|------------|------------|------------|----------------------|----------------------|---------------------|-----------------------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Ile 145 | Cys | Trp | Gly | Leu | Gly 150 | Ile | Glu | Тут | Thr | Phe 155 | Pro | Pro | Leu | Tyr | Tyr 160 |
| | Arg | Arg | Ala | His | Arg 165 | Arg | Phe | Val | Thr | Lys 170 | Lys | Ala | Leu | Cys | 11e 175 | Arg |
| () | Val | Phe | Gln | Glu 180 | Thr | Gln | Lys | Leu | Lys 185 | Lys | Arq | Arg | Arg | Ala 190 | Leu | Lys |
| 15 | Ala | Ala | Ala 195 | Ala | Ala | Gln | Lys | Gln 200 | Ala | Lys | Ara | Arg | Asn 205 | Pro | qaA | Ser |
| | Pro | Ala 210 | Lys | Ala | Ile | Pro | Lys 215 | Thr | Leu | Lys | Asp | Jer 220 | Gln | Каа | | |
| 20 | (2) | INF | ORMA' | ncin | FOR | SEQ | ID I | MO: : | 346: | | | | | | | |
| | | | (i) | SEQU. | | | | | | | | | | | | |
| 25 | | | (xi) | (| B) T D) T | YPE: OPOL | ami OGY: | 4 am no a lin PTIO | cid ear | | | : 34 | ် : | | | |
| 30 | Met 1 | Gly | Ala | Pro | Ala 5 | Ala | Ser | Leu | Leu | Leu 10 | Leu | Leu | Leu | Leu | Phe 15 | Ala |
| | Cys | Cys | Trp | Ala 20 | Pro | Gly | Gly | Ala | Asn 25 | Leu | Ser | Gln | Asp. | φαΛ 0ε | Ser | Gln |
| 35 | Pro | Trp | Thr 35 | Ser | Asp | Glu | Thr | Val 40 | Val | Ala | Gly | Gly | Thr 45 | Val | Val | Leu |
| 40 | Lys | Cys 50 | Gln | Val | Lys | qaA | H18 | Glu | Asp | Ser | Ser | Leu 60 | Gln | Trp | Ser | Xaa |
| 45 | (2) | ine | ORMA | noit | FIR | <u> ೮</u> ೬೪ | 11) | NO: | 347: | | | | | | | |
| 50 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 1 ami OGY: | .54 a .no a lin | mino cid ear | aci | | : 3.1 | 7: | | | |
| | | | ٠. | | | | . ; | | | | | | | | : | |
| 60 | 111. | : * -1 | ; ; | | ţı | Ŋ +++ | | | ٠., | | | ٠. | | ٠ | | |

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|----|------------|------------|------------|-------------------|-------------------------|-------------------------|-----------------------|------------------------|---------------|-----------|-----------|------------|------------|------------|-----------|-----------|-----|---|
| 5 | Gln | Pro 50 | Gly | Pro | Leu | Glu | Pro 55 | Glu | Glu | Pro | Arg | Ala 60 | Gly | Gly | Arg | Pro | | |
| 3 | Arg 65 | Arg | Arg | Arg | Asp | Leu 70 | Gly | Ser | Arg | Leu | Gln 75 | Ala | Gln | Arg | Arg | Ala 80 | | |
| 10 | Gln | Arg | Val | Ala | Trp 85 | Ala | Glu | Ala | Asp | Glu 90 | Asn | Glu | Glu | Glu | Ala 95 | Val | | |
| | Ile | Leu | Ala | Gln 100 | Glu | Glu | Glu | Gly | Val 105 | Glu | Lys | Pro | Ala | Glu 110 | Xaa | His | | |
| 15 | Leu | Ser | Gly 115 | Lys | Ile | Gly | Ala | Lys 120 | Lys | Leu | Arg | Xaa | Xaa 125 | Glu | Glu | Lys | | |
| 20 | Gln | Ala 130 | Arg | Lys | Ala | Gln | Xaa 135 | Glu | Ala | Glu | Glu | Ala 140 | Glu | Arg | Glu | Xaa | | |
| | Arg 145 | Lys | Arg | Leu | Glu | 3er 150 | Gln | Arg | Glu | Xaa | | | | | | | | |
| 25 | (2) | INFO | ORMAT | NOIS | FOR | SEQ | ID 1 | 1 0: 3 | 348: | | | | | | | | | |
| 30 | | | | SEQUI () () | ENCE A) L B) T | CHAI ENGT: YPE : | RACTI H: 1 ami: | ERIST 7 aum no a | rICS ino a | | S | | | | | | | |
| | | | | SEQ | JENCI | E DES | SCRII | | 1: SI | | | | | | | | | |
| 35 | Met 1 | Gin | Lys | Cys | Met 5 | Leu | Ser | Ala | Leu | Val 10 | Phe | His | Ile | Gln | Trp 15 | Ser | | |
| 40 | Xaa | | | | | | | | | | | | | | | | | |
| 40 | (2) | INFO | PMAT | 'ION | FOR | SEQ | ID N | IO: 3 | 49: | | | | | | | | | |
| 45 | | | | () () () | A) L: B) T' D) TY | ENGTI YPE : OPOLO | d: 10 amin DGY: | o amo no ac line | | acids | | : 349 |) : | | | | | |
| 50 | Met 1 | Leu | Val | Cys | Ser 5 | Phe | Leu | Phe | Leu | Xaa 10 | | | | | | | | |
| 55 | (2) | INFO | PMAT | 'ION | FOR | SEQ | ID N | ю: 3 | 50: | | | | | | | | | |
| | | (| (i) S | () | A) LI | ENGT | H: 14 | am: | ICS: | | 3 | | | | | | • . | - |
| 60 | | | | | | | | no ac line | | | | | | | | | | |

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 350:
                Val Ile Glu Leu Cys Val Ser Leu Arg Ser Leu Ash Phe Xaa
   5
                (2) INFOFMATION FOR SEQ ID NO: 351:
10
                                 (1) SEQUENCE CHARACTERISTICS:
                                                  (A) LENGTH: 18 amine acids:
                                                      (B) TYPE: amino acid
                                                     (D) TOPOLOGY: linear
                                   (X1) SEQUENCE DESCRIPTION: SEQ ID NO: 351:
15
               Met Cys Slu Fhe Kaa Kaa Kaa Ile Met Kaa Leu Ala Gly Tyr Phe Ala
                                                                                10 15
               Cyn Rad
20
               (2) INFORMATION FOR SEQ ID NO: 352:
25
                                   (1) SEQUENCE CHARACTERISTICS:
                                                     (A) LENGTH: 62 amino acids
                                                      (B) TYPE: amino acid
                                                    (D) TOPOLOGY: linear
30
                                 (DEE) SEQUENCE DESCRIPTION: SEQ ID NO: 352:
               Met Val Gly Sly Syr Val Ser Ser Phe Ser Phe Pro Pro Val Ser Ser
35
                Ser Leu Leu Leu Pro Ala Her Phe Ala Phe Pro Phe Leu Pro Gly Thr
                                                                    25 30 1
                Pro Cys Pro Fn- Lou Tyr Phe Leu Pro Ser Pro Phe Ser Pro Leu Pro
                                                                                           40
40
                Leu Ser Leu Thr Ang Ser Ash Ser Phe Leu Leu Aon Oly Xaa
                      50 55
45
               (0) IMPORMATION FOR SEQ ID NO: 353:
                                  (1) SEQUENCE CHARACTERISTICS:
                                                   (A) LENGTH: 33 amino acids
50
                                                      (B) TYPE: amino acid
                                                     (D) TOPOLOGY: linear
                                   (::i) SEQUENCE DESCRIPTION: SEQ ID NO: 353:
                               where the constant of the state of the stat
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| 5 | (2) | INF | RMAT | NOI | FOR | SEQ | ID N | 10: 3 | 354: | | | | | | | |
|----|------------|------------|------------|------------|-----------------------|-----------------------|----------------------|----------------------|--------------------|------------|-------------------|------------|------------|------------|------------|------------|
| 10 | | | | () | A) L: B) T D) T | ENGT: YPE: OPOL | H: 2 ami: OGY: | 45 au no a lin | mino cid ear | aci | | : 354 | 1: | | | |
| 15 | Met 1 | Gly | Gly | Ala | Ser 5 | Arg | Arg | Val | Glu | Ser 10 | Gly | Ala | Trp | Ala | Тут 15 | Leu |
| 15 | Ser | Pro | Leu | Val 20 | Leu | Arg | Lys | Glu | Leu 25 | Glu | Ser | Leu | Val | Glu 30 | Asn | Glu |
| 20 | Gly | Ser | Glu 35 | Val | Leu | Ala | Leu | Pro 40 | Glu | Leu | Pro | Ser | Ala 45 | His | Pro | Ile |
| | Ile | Phe 50 | Trp | Asn | Leu | Leu | Trp 55 | Tyr | Phe | Gln | Arg | Leu 60 | Arg | Leu | Pro | Ser |
| 25 | Ile 65 | Leu | Pro | Gly | Leu | Val 70 | Leu | Ala | Ser | Суѕ | A sp 75 | Gly | Pro | Ser | Xaa | Ser 80 |
| 30 | Gln | Ala | Pro | Ser | Pro 85 | Trp | Leu | Thr | Pro | Asp 90 | Pro | Ala | Ser | Val | Gln 95 | Val |
| 50 | Arg | Leu | Leu | Trp 100 | Asp | Val | Leu | Thr | Pro 105 | Asp | Pro | Asn | Ser | Cys 110 | Pro | Pro |
| 35 | Leu | Tyr | Val 115 | Leu | Trp | Arg | Val | His 120 | Ser | Gln | Ile | Pro | Gln 125 | Arg | Val | Val |
| | Trp | Pro 130 | Gly | Pro | Val | Pro | Ala 135 | Ser | Leu | Ser | Leu | Ala 140 | Leu | Leu | Glu | Ser |
| 40 | Val 145 | Leu | Arg | His | Val | Gly 150 | Leu | Asn | Glu | Val | His 155 | Lys | Ala | Val | Gly | Leu 160 |
| 45 | Leu | Leu | Glu | Thr | Leu 165 | Gly | Pro | Pro | Pro | Thr 170 | Gly | Leu | His | Leu | Gln 175 | Arg |
| | Gly | Ile | Tyr | Arg 180 | Glu | Ile | Leu | Phe | Leu 185 | Thr | Met | Ala | Ala | Leu 190 | Gly | Lys |
| 50 | Asp | His | Val 195 | Asp | Ile | Val | Ala | Phe 200 | | Lys | Lys | Tyr | Lys 205 | | Ala | Phe |
| | Asn | Lys 210 | Leu | Ala | Ser | Ser | Met 215 | Gly | Lys | Glu | Glu | Leu 220 | Arg | His | Arg | Arg |
| 55 | Ala 225 | Gln | Met | Pro | Thr | Pro 230 | | Ala | Ile | Asp | Cys 235 | | Lys | Cys | Phe | Gly 240 |
| 60 | Ala | Pro | Pro | Glu | Cys 245 | | | | | | | | | | | |

| | (2) INFORMATION FOR SEQ ID NO: 355: |
|----|---|
| 5 | (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 35 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 10 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 355: |
| | Met Dys Phe Ser Leu Leu Phe Leu Fro Met Leu Leu Ile Leu Lys Pro 1 5 10 15 |
| 15 | Asp Leu Phe His Ile Ser Ile Cys Thr Leu Ala Ala Cys Gly Leu Thr 20 25 30 |
| | Phe Pro Xaa 35 |
| 20 | |
| | (2) INFORMATION FOR SEQ ID NO: 356: |
| 25 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 22 amino acids (E) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 356: |
| 30 | Met Leu Phe Phe Phe Ilo Leu His Leu Leu Ser Ile Met Ser Phe Leu l 5 10 15 |
| 35 | Ser Pro Asp Ile Met Xaa 20 |
| | (2) INFORMATION FOR SEQ ID NO: 357: |
| 40 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 98 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 45 | (x1) SEQUENCE RESCRIPTION: SEQ ID NO: 357: |
| | Met Phe Gly Leu Leu Val Glu Der Sin Thr Leu Leu Glu Glu Glu Ann Ala 1 5 10 15 |
| 50 | Val Gln Gly Thr Glu Arg Thr Leu Gly Leu Asn Ile Ala Pro Phe Ile 20 35 30 |
| | Asn Gin Phe Gin Val Pro Ile Arg Val Phe Leu Asp Leu Ser Ser Leu 30. |
| 60 | Motovor for Typ Jen Adm. Hard, or Adm. And Gue Val Iso Val typ Val et |

Cys Xaa Ile Trp Glu Acp Leu Thr Ala Ile Pro Phe Trp Val Ser Tyr 85 90 Val Pro 5 (2) INFORMATION FOR SEQ ID NO: 358: 10 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 78 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear 15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 358: Met Phe Gly Ala His Arg Xaa Trp Gln Gly Ser Val Leu Leu Phe Leu 10 20 Ser Phe Ala Trp Gly Ash Gly Gly Ser Val Thr Phe Ser Asp Val Pro Arg Val Met Pro Leu Ala Gly Gly Pro Xaa Xaa Gln Val Ser Ser Thr 40 25 Pro Arg Pro Pro Pro His Gln Val Thr Ser Ser Pro Gly Leu Glu Ser Ala His Ile Val Cys Pro Glu Arg Lys Lys Lys Lys Lys 30 70 (2) INFORMATION FOR SEQ ID NO: 359: 35 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (D) TOPCLOGY: linear 40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 359: Thr Leu Leu Xaa Phe Leu Xaa Leu Leu Thr Thr Glu Gly Gly Arg Glu 45 Asn Ile Phe Kaa Gly Arg Ile Leu Kaa Leu Gln Kaa Ser Pro Kaa 20 25 30 50 (2) INFORMATION FOR SED ID NO: 360: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 57 amino acids (B) TYPE: amino acid 55 (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 360: Met Leu Ser Phe Phe Ile Cys Leu Leu Ile Phe Val His Leu Leu Leu 10 60

| | Lou Ser Phe Leu Ile Ser Acp Trp Pro Pro Pro Thr Gly Ser Ala Kaa 20 25 30 |
|----|--|
| 5 | His bys The Leu Arg Leu Met Val Val Gln Arg Leu Ser Leu Leu Asp 35 40 45 |
| | Gln Arg Lys Arg Trp Ser Glu Ala Kaa 50 55 |
| 10 | |
| | (2) INFORMATION FOR SEQ ID NO: 361: |
| 15 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 3 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361: |
| 20 | Lys Tyr Xaa l |
| 25 | (2) INFORMATION FOR SEQ ID NO: 362: |
| 30 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 32 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 362: |
| 35 | Trp Ser Ser Ala Ser Ser Ser Trp Val Thr Thr Pro Glu Arg Ile Arg 1 |
| | Pro Arg Met Asp Thr Leu Pro Val Lys Gly His Phe Leu Ser Met Xaa 20 25 30 |
| 40 | |
| 45 | (C) INFORMATION FOR SEQ ID NO: 363: |
| 50 | (i) SEQUENTE CHARACTERICTICS. (A) LENGTH: 28 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 50 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 363: |
| | Acp lie Phe Val Phe Leu Leu Ser Thr Ard Ala Gly Gly Leu Gly IIa |

 60° , the emation for the true (84)

es e a

| | (i) SEQUENCE CHARACTERISTICS: |
|------------|--|
| | (A) LENGTH: 15 amino acids |
| _ | (B) TYPE: amino acid |
| 5 | (D) TOPOLCGY: linear |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 364: |
| | |
| | Thr Leu Thr Ser Phe Leu Glu Leu Pro Leu Ala Pro Glu Pro Xaa |
| 10 | 1 5 10 15 |
| 10 | |
| | |
| | (2) INFORMATION FOR SEQ ID NO: 365: |
| | |
| 15 | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 34 amino acids |
| | (B) TYPE: amino acid |
| | (D) TOPOLOGY: linear |
| 20 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365: |
| 20 | Met His Arg Tyr Ile Thr Phe Phe Lys Cys Phe Arg Ser Val Ile Leu |
| | 1 5 10 15 |
| | |
| | Asp Leu Leu Phe Ile Leu Ser Pro Leu Ser Gln Gly Cys Phe Ile Leu |
| 25 | 20 25 30 |
| | |
| | Phe Xaa |
| | |
| 30 | |
| | |
| | (2) INFORMATION FOR SEQ ID NO: 366: |
| | • |
| 2.5 | (i) SEQUENCE CHARACTERISTICS: |
| 35 | (A) LENGTH: 66 amino acids |
| | (B) TYPE: amino acid |
| | (D) TOPOLOGY: linear |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366: |
| 40 | Met Phe Gly Phe Ile Phe Leu Leu Ile Phe Cys Ile Xaa Leu Cys |
| | 1 5 10 15 |
| | |
| | Ser Arg Thr Leu Ser Thr Phe Ile Pro Lys Leu Val Gly Phe Leu Tyr |
| 15 | 20 25 30 |
| 45 | |
| | Trp Lys Phe Ser Ile Asn Leu Ser Leu Leu Leu Thr Leu Ile Lys Lys |
| | 35 40 45 |
| | INS INS INS INS INS INS THE DRO AND CHARLES OF A PARTY |
| 50 | Lys Lys Lys Lys Lys Thr Pro Arg Gly Gly Pro Gly Xaa Gln Ser 50 55 |
| | ~- 60 |
| | Pro Pro |
| | 65 |
| - - | |
| 55 | |
| | |
| | (2) INFORMATION FOR SEQ ID NO: 367: |
| | / : \ |
| 60 | (i) SEQUENCE CHARACTERISTICS: |
| \sim | (A) LENGTH: 317 amino acids |

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

| | | | (XI) | SEQ | UENC | E DE | SCRI | PTIO | N: S | EQ I | D NO | : 36 | 7: | | | |
|----|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|------------|------------|
| 5 | Mert 1 | | Gly | Leu | Gly 5 | Arg | Pro | Arg | Gln | Ala 10 | Arg | Trp | Thr | Leu | Met 15 | Leu |
| 10 | Leu | Leu | Ser | Thr 20 | Ala | Met | Tyr | Gly | Ala 25 | His | Ala | Pro | Leu | Leu 30 | Ala | Leu |
| | Cys | His | Val 35 | Asp | Gly | Arg | Val | Pro 40 | Phe | Arg | Pro | Ser | Ser 45 | Ala | Val | Leu |
| 15 | Leu | Thr 50 | Glu | Leu | Thr | Lys | Leu 55 | Leu | Leu | Cys | Ala | Phe 60 | Ser | Leu | Leu | Val |
| | Gly 65 | | Gln | Ala | Trp | Pro 70 | Gln | Glγ | Pro | Pro | Pro 75 | Trp | Arg | Gln | Ala | Ala 80 |
| 20 | Pro | Phe | Ala | Leu | Jer 85 | Ala | Leu | Leu | Tyr | Gly 90 | Ala | Asn | Asn | Asn | Leu 95 | Val |
| 25 | Ile | Ty'r | Leu | Gln 100 | Arg | Tyr | Met | Asp | Pro 105 | Ser | Thr | Tyr | Gln | Val 110 | Leu | Ser |
| | Asn | Leu | Lys 115 | Ile | Gly | Ser | Thr | Ala 120 | Val | Leu | Тут | Cys | Leu 125 | Cys | Leu | Arg |
| 30 | His | Arg 130 | Leu | Ser | Val | Arg | Gln 135 | Gly | Leu | Ala | Leu | Leu 140 | Leu | Leu | Met | Ala |
| | Ala 145 | Gly | Ala | Cys | Tyr | Ala 150 | Ala | Gly | Gly | Leu | Gln 155 | Val | Pro | Gly | Asn | Thr 160 |
| 35 | Leu | Pro | Ser | Pro | Pro 165 | Pro | Ala | Ala | Ala | Ala 170 | Ser | Pro | Met | Pro | Leu 175 | His |
| 40 | Ile | Thr | Pro | Leu 180 | Gly | Leu | Leu | Leu | Leu 185 | Ile | Leu | Tyr | Cys | Leu 190 | Ile | Ser |
| | Gly | Leu | Ser 195 | Ser | Val | Tyr | Thr | Glu 200 | Leu | Leu | Met | Lys | Arg 205 | Gln | Хаа | Leu |
| 45 | Pro | Leu 219 | Ala | Leu | Gln | Asn | Len 215 | Phe | Leu | 'Pyr | Thr | Ph/: 220 | Gly | LEV | Leu | Leu |
| | Asn 225 | Leu | Gly | Leu | His | Ala 230 | Gly | Gly | Gly | Ser | Gly 235 | Pro | Gly | Leu | Leu | Glu 240 |
| 50 | Gly | Phe | Ser | Gly | Trp 245 | Ala | Ala | Leu | | Val 250 | Leu | Ser | Gln | Ala | Leu 255 | Asn |
| | 11.4 | т | ÷ , ., | **, . • | • | • | | ٠ | | | | | | | | |

 60° . Using the Arm Lemma the Thr. Also Also Phe The Lem Also Thr. Lemma 19.5.

Section 18 Section 18

| | Leu Ile Gly Leu Ala Met Arg Leu Tyr Tyr Gly Ser Arg 305 - 310 - 315 | |
|----|--|--|
| 5 | | |
| | (2) INFORMATION FOR SEQ ID NO: 368: | |
| 10 | (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368: | |
| 15 | Met Gly Glu Gln Pro His Phe Ser Leu Cys Val Leu Leu Ala Ala Val 1 5 10 15 | |
| 20 | Arg Giu Asp Xaa Asp Pro Xaa Val Phe Pro Cys Cys Phe Leu Xaa 20 25 30 | |
| | (2) INFORMATION FOR SEQ ID NO: 369: | |
| 25 | (i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 43 amino acids(B) TYPE: amino acid(D) TOPC-LOGY: linear | |
| 30 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369: | |
| | Met Ser Phe Ile Ala Leu His Pro Leu Leu Pro Glu Ala Ala Leu Gly 1 5 10 15 | |
| 35 | Val Pro Gly Gln Ser Pro His Arg Pro Leu Trp Gln Thr Gln Cys Cys 20 25 30 | |
| | Val Ala Pro Pro Gln Pro Arg Ala Glu Phe Xaa 35 40 | |
| 40 | | |
| | (2) INFORMATION FOR SEQ ID NO: 370: | |
| 45 | (i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 255 amino acids(B) TYPE: amino acid(D) TOPOLOGY: linear(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370: | |
| 50 | Met Val Thr Ala Leu Thr Leu Leu Ala Phe Pro Leu Leu Leu Leu His 1 5 10 15 | |
| 55 | Ala Glu Arg Ile Ser Leu Val Phe Leu Leu Leu Phe Leu Gln Ser Phe 20 25 30 | |
| 55 | Leu Leu Leu His Leu Leu Ala Ala Gly Ile Pro Val Thr Thr Pro Gly 35 40 45 | |
| 60 | Pro Phe Thr Val Pro Trp Gln Ala Val Ser Ala Trp Ala Leu Met Ala 50 55 60 | |

| | Thr 65 | Gln | Thr | Phe | Tyr | Ser 70 | Thr | Gly | His | Gln | Pro 75 | Val | Phe | Pro | Ala | Ile 80 |
|----|------------|------------|------------|------------|------------|------------|-----------------------|---------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | His | Trp | His | Ala | Ala 35 | Phe | Val | Sly | Phe | Pro 90 | Glu | Gly | His | Gly | Ser 95 | Сув |
| 10 | Thr | Trp | Leu | Pro 100 | Ala | Leu | Leu | Val | Gly 1 05 | Ala | Asn | Thr | Phe | Ala 110 | Ser | His |
| | Leu | Leu | Phe 115 | Ala | Val | Gly | Cys | Pro 120 | Leu | Leu | Leu | Leu | Trp 125 | Pro | Phe | Leu |
| 15 | CAR | Glu 130 | Ser | Gln | Gly | Leu | Arg 135 | Lys | Arg | Gln | Gln | Pro 140 | Pro | Gly | Asn | Glu |
| | Ala 145 | Asp | Ala | Arg | Val | Arg 150 | Pro | Slu | Glu | Glu | Glu 155 | Glu | Pro | Leu | Met | Glu 160 |
| 20 | Met | Arg | Leu | Arg | Азр 165 | Ala | Pro | 3ln | His | Phe 170 | Tyr | Ala | Ala | Leu | Leu 175 | Gln |
| 25 | Leu | Gly | Leu | Lys 180 | Τγτ | Leu | Phe | Tle | Leu 185 | Gly | Ile | Gln | Ile | Leu 190 | Ala | Cys |
| | Ala | Leu | Ala 195 | Ala | Ser | Ile | Leu | Arg 200 | Arg | His | Leu | Met | Val 205 | Trp | Lys | Val |
| 30 | Phe | Ala 210 | Pro | Lys | Phe | Ile | Phe 215 | Glu | Ala | Val | Gly | Phe 220 | Ile | Val | Ser | Ser |
| | Val 225 | Gly | Leu | Leu | Leu | Gly 230 | Ile | Ala | Leu | Val | Met 235 | Δrg | Val | Asp | Gly | Ala 240 |
| 35 | Val | Ser | Ser | Trp | Phe 245 | Arg | Gln | Leu | Phe | Leu 250 | Ala | Gln | Gln | Arg | Xaa 255 | |
| 40 | (2) | INFO | ORMAT | rion | FOR | SEQ | ID N | 4 0: ∃ | 371: | | | | | | | |
| | | | (i) : | (| A) L | ENGT. | H: 2 | 0 am | ino | | s | | | | | |
| 45 | | | (xi) | - (| D) T | OPCL | ami: OGY: SCRII | lim | ear | II ÇE | OM C | : 37. | L: | | | |
| 50 | Met 1 | Xaa | Gly | Pro | Trp 5 | Glγ | Glu | Glu | Ala | Leu 10 | Ile | Arg | Leu | Pro | Thr 15 | Pro |
| 20 | Ser | Gly | Leu | Хаа 20 | | | | | | | | | | | | |

1 OF THIS HARASTER LOTICUL

(A) LEMGTH: 64 amino avido (B) THIR: amino amid

```
(D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:
       Met Ala Thr Leu Glu Xaa Asn Gln Arg Glu Val Asp Arg Glu Ile Arg
  5
       Ser Leu Leu Trp Phe Leu Leu Cys Glu Ile Val Ser Gly Trp Leu
 10
       Cys Pro Glu Gly Pro Trp Phe Ser Gln Gly Cys Gln Ile Tyr Lys Asn
       Leu Ser Ser Ser Ser Tyr Asn Leu Ser Phe Leu Leu Ser Leu Xaa
        50 55 50
 15
 20
      (2) INFORMATION FOR SEQ ID NO: 373:
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 40 amino acids
 25
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:
      Met Ile His Ser Gly Cys Thr Ser Gln Cys Leu Glu Gly Phe Phe Leu
30
       1 5
      Ile Phe Leu Leu Asp Phe Asn Pro Val Leu Ala Leu Asp Leu Ile Gly
                 2.0
35
      Ile Met Arg Lys Ala Ser His Xaa
             35
40
      (2) INFORMATION FOR SEQ ID NO: 374:
             (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 35 amino acids
                   (B) TYPE: amino acid
45
                   (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:
     Met Val Phe Ser Ala Arg Val Ser Leu Tyr Thr Arg Phe Lys Val Ile
                             10
50
     Leu Leu Ser Leu Leu Ile Met Ile Leu His Val Cys Trp Val Trp Val
     Ile Leu Xaa
55
        35
```

(2) INFORMATION FOR SEQ ID NO: 375:

```
(i) SEQUENCE CHARACTERISTICS:
                     (A) LENGTH: 11 amino acids
                     (B) TYPE: amino acid
                     (D) TOPOLOGY: linear
  5
             (x1) SEQUENCE DESCRIPTION: SEQ ID NO: 375:
      Gly Leu Leu Tyr Ile Met Tyr Cys Asn Ile Xaa
                      5
 10
      (2) INFORMATION FOR SEQ ID NO: 376:
             (i) SEQUENCE CHARACTERISTICS:
 15
                   (A) LENGTH: 64 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:
20
      Met Asn Asn Gly Leu Leu Gln Gln Pro Ser Ala Leu Met Leu Leu Pro
                                         10
      Cys Arg Pro Val Leu Thr Ser Val Ala Leu Asn Ala Asn Phe Val Ser
                         25
25
      Trp Lys Ser Arg Thr Lys Tyr Thr Ile Thr Pro Val Lys Met Arg Lys
      Ser Gly Gly Arg Asp His Thr Gly Gly Asn Lys Asp Arg Gly Ile Xaa
30
       50
                              55
35
      (2) INFORMATION FOR SEQ ID NO: 577:
             (i) SEQUENCE CHARACTERISTICS:
40
                    (A) LENGTH: 19 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (x1) SEQUENCE DESCRIPTION: SEQ ID NO: 377:
45
     Mot Arg Lys Gin Arg Len Val Pro Met Tyr Leu Gly Lon Ilo Tyr ilo
                                    10
     Leu Leu Xaa
50
      (2) INFORMATION FOR SECTION TO ACCURATE
                   Le Man Degre linear
            THE STEELE LEGIRIPTIONS USES ID NOT 30%.
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```
Met Arg Gln His Xaa
       1 5
  5
       (2) INFORMATION FOR SEQ ID NO: 379:
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 17 amino acids
 10
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 379:
      Leu Leu Pro Val Leu Ala Ser Ser Val Pro Ser His Ser Ala Thr
 15
                                        10
      Xaa
20
      (2) INFORMATION FOR SEQ ID NO: 380:
             (i) SEQUENCE CHARACTERISTICS:
25
                    (A) LENGTH: 84 amino acids
                    (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:
30
      Met Leu Pro Leu Leu Phe Thr Tyr Leu Asn Ser Phe Leu His Gln
                                        1.0
      Arg Ile Pro Gln Ser Val Arg Ile Leu Gly Ser Leu Val Ala Ile Leu
                                     25
                                                       30
35
      Leu Val Phe Leu Ile Thr Ala Ile Leu Val Lys Val Gln Leu Asp Ala
                  40
      Leu Pro Phe Phe Val Ile Thr Met Ile Lys Ile Val Leu Ile Asn Ser
40
      Phe Gly Ala Ile Leu Gln Gly Ser Leu Phe Gly Leu Ala Gly Leu Leu
                     70
45
     Pro Ala Ser Xaa
50
      (2) INFORMATION FOR SEQ ID NO: 381:
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 21 amino acids
                   (B) TYPE: amino acid
55
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:
     Met Lys Leu Ser Leu Phe Leu Ile Leu Ser Asp Val Phe Tyr Leu Gly
      1 5
                               10
60
```

Ser Pro Kaa Thr Xaa 20 5 (2) INFORMATION FOR SEQ ID NO: 382: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 29 amino acids 10 (B) TYPE: amino acid (D) TOPOLOGY: linear (xt) SEQUENCE DESCRIPTION: SEQ ID NO: 382: Mot Bly The Ard Ard Lys Gly Val Ala Trp Lou Ser Leu Ala Pro Leu 15 5 10 The Thr Gly Lou Ala Pro Ala His The Thr Ala Val Xaa 20 25 20 (2) INFOFMATION FOR SEQ ID NO: 383: (1) SEQUENCE CHARACTERISTICS: 25 (A) LEWSTH: 34 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383: 30 Met Lys App Lou Deu Gln Arg Ash Pro Trp Lys Ash Ser Leu Leu Leu 1.0 Leu Gln Val Cys Cln Ala Phe Leu Val Cys Ser Leu Thr Gln Leu Ala 20 25 3.0 35 Val Kaa 40 (2) INFORMATION FOR SEQ ID NO: 384: (i) CHQUENCE CHAPACTERISTICS: (A) LENGTH: 47 amino acids 45 (P: TYPE: amino acid (D) TOPOLOGY: linear (XI) DEQUENCE DESCRIPTION: SEQ ID NO: 384:

Met Ser Glu Ser His Lys Ile Trp Trp Cys Tyr Arg His Leu Ala Phe

Pro Leu Leu Thr Leu fle Leu Tyr Pro Ala Thr Leu Gly Arg Ser Val

2:

60 (3) INFORMATION FIR (E) ID NV: 385:

20

```
(i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 25 amino acids
                    (E) TYPE: amino acid
  5
                    (D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:
      Met Leu Asn Arg Ile Met Val Ala Ser Phe Gly Ala Val Leu Val Gln
                               10
 10
      Val Cys Arg Gly Xaa Gly Gin Gly Xaa
                 20
 15
      (2) INFORMATION FOR SEQ ID NO: 386:
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 63 amino acids
20
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:
      Met Gln Leu Leu Leu Gly Leu Ile Arg Ser Gln Pro Ser Pro Pro
25
                                  1.0
      Pro Ser Leu Cys Leu Met Leu Cys Pro Cys Leu Pro Cys Leu Arg Tyr
               20
30
      Ser Pro Phe Val Pro Gln His Pro Cys Pro Leu Pro Leu Asp Leu Cys
                                 40
      Leu Ala Gly Cys Ser Ser Leu Ser Val Gln Asp Lys Cys Ser Trp Pro
       50
                            55
                                     60
35
      Tyr Pro Ile Xaa
      65
40
      (2) INFORMATION FOR SEQ ID NO: 387:
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 34 amino acids
45
                   (B) TYPE: amino acid
                   (D) TOPCLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:
     Lys Glu Phe Phe Val Phe Leu Phe Val Cys Leu Phe Trp Leu Leu Ser
50
                                     10
     Asn Thr Pro Leu Thr Phe Ile Ser Ile Ile Leu Gln Arg Lys Glu Thr
                2.0
55
     Asn Xaa
                                                                      - . . - .
```

(2) INFORMATION FOR SEQ ID NO: 388:

```
(i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 14 amino acido
                    (B) TYPE: amino acid
  5
                    (D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:
       Ser Phe Leu Met Val Leu Val Ile Leu Ala Ala Ser Pro Xaa
       1 5
                               10
 10
       (2) INFOFMATION FOR SEQ ID NO: 389:
 15
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) CFQUENCE DESCRIPTION, SEQ ID NO: 389:
 20
        1
                                       10
 25
      (2) INFORMATION FOR SEQ ID NO: 390:
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 154 amino acids
30
                    (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390.
      Met Thr Lys Ala Arg Leu Phe Arg Leu Trp Leu Val Leu Gly Ser Val
35
                                       10
      Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly Ala Ala
                 20 -
                       25
40
      His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr Gly Pro Pro
      Lou Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu Thr Ala Asp Ser
                        55
45
     Amp Val Amp Kha Phe Leu Amp Maa Phe Leu Ser Ali Gly Val Lys Gin
     Ser Asp Xaa Pro Arg Lys Glu Thr Glu Gln Pro Pro Ala Pro Gly Ser
50
     Met Glu Glu Ser Val Arg Xaa Tyr Acp Trp Ser Pro Arg Xaa Ala Arg
      by Alabert Analthe was Pro Ala Tro Erobert Pro Pro Analter Ala
       1,6%
                                   11)
60
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His Ser Thr Thr Ser Pro Thr Arg Ser Kaa
             150
5
     (2) INFORMATION FOR SEQ ID NO: 391:
            (i) SEÇUENCE CHARACTERISTICS:
                   (A) LENGTH: 9 amino acids
10
                   (B) TYPE: amino acid
                   (D) TOPCLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:
     Met Val Leu Leu Gly Leu Leu Ser Xaa
15
     (2) INFORMATION FOR SEQ ID NO: 392:
20
            (1) SEQUENCE CHARACTERISTICS:
                  (A) LENCTH: 61 amino acids
                   (B) TYPE: amino acid
                   (D) TCPCLOGY: linear
25
            (x1) SEQUENCE DESCRIPTION: SEQ ID NO: 392:
     Met Cys Ile His Val Phe Met Xaa Val Leu Trp Val Leu Phe Leu Leu
                         10
30
     Asn Pro Leu Cys Thr Gly Leu Trp Pro Leu Xaa Asn Cys Phe Ser Val
     Leu Arg His Ala Asp Trp Val Leu Gly Ala Asp Tyr Lys Gly Glu Glu
35
     Leu Asn Arg His Gln Gly Pro Met Lys Pro Lys Asp Xaa
40
     (2) INFORMATION FOR SEQ ID NO: 393:
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 447 amino acids
45
                   (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 393:
     Met Leu Gly Leu Leu Met Ala Ala Cys Phe Thr Phe Cys Leu Ser
50
      1 5
     His Gln Asn Leu Lys Glu Phe Ala Leu Thr Asn Pro Glu Lys Ser Ser
                                   25
55
     Thr Lys Glu Thr Glu Arg Lys Glu Thr Lys Ala Glu Glu Glu Leu Asp
                   40 45
     Ala Glu Val Leu Glu Val Phe His Pro Thr His Glu Trp Gln Ala Leu
60
```

| őin ő5 | Pro | Gly | Jin | Ala | 70 70 | rro | Ala | GIY | Ser | 75 | vai | ATG | _÷u | AZT | 20 20 |
|------------|--|---|---|--|---|------------|--|--|--|--|------------|------------|--|--|--|
| Gln | Thr | Gly | Glu | Arg 85 | Glu | Ala | Lys | Leu | Gln 90 | Tyr | Glu | Arp | 170 | Phe 95 |)T.å |
| Asn | Asn | Leu | Lys 100 | Gly | Lys | Arg | Leu | Asp 105 | Ile | Asn | Thr | Asn | Thr 110 | 7-373 | -22 |
| Ser | Gln | Asp 115 | I.eu | Lys | Ser | Ala | Leu 120 | Ala | Lys | Phe | Lys | Glu 125 | Gly | Ala | 31u |
| Met | Glu 130 | Ser | Ser | Lys | Glu | Asp 135 | Lys | Ala | Arg | Gln | Ala 140 | Glu | Val | Lys | Ary |
| Leu 145 | Phe | Arg | Pro | Ile | Glu 150 | Glu | Leu | Lys | Lys | Asp 155 | Phe | A3p | Glu | 161 | Alan 160 |
| Val | Val | Ile | Ğlu | Thr 165 | Asp | Met | Gln | ıle | меt 170 | Val | Arg | Pen | lle | A25. | Lys |
| Phe | Asn | Ser | Ser 130 | Ser | Ser | Ser | Leu | Glu 185 | Glu | Lys | Ile | Ala | Ala 190 | lau | Phe |
| Asp | Leu | Glu 195 | Tyr | Tyr | Val | His | Gln 200 | Met | Asp | Asn | Ala | Gln 205 | Asp | leu | leu |
| Ser | Phe 210 | Gly | Gly | Leu | Gln | Val 215 | Val | Ile | Asn | Gly | Leu 220 | Asn | Ser | The | 324 |
| Pro 225 | Leu | Val | Lys | Glu | Tyr 230 | Ala | Ala | Phe | Val | Leu 235 | Gly | Aa | Ala | Phe | 540 Sex |
| Ser | Asn | Pro | Lys | Val 245 | Gln | Val | Glu | Ala | Ile 250 | Glu | Gly | Gly | Ala | 162 288 | Gln |
| Lys | Leu | Leu | Val 260 | Ile | Leu | Ala | Thr | Glu 265 | Gln | Pro | Letti | Thr | Ala 270 | 1ys | lys |
| Lys | Val | Leu 275 | Phe | Ala | Leu | Cys | Ser 280 | Leu | Leu | Arg | His | Phe 285 | Pro | Tyr | Ма |
| Gln | Arg 290 | | Phe | Leu | Lys | Leu 295 | Gly | Gly | Leu | Gln | Val 30+ | Leu | Ary | میں ہوا معد مداد د اد | jeu |
| | | -31u | ьуs | 925 | Thr 310 | Glu | Val | Leu | Ala | | | Val | Val | 732 | 1æ1 320 |
| Leu | Тут | Asp | Leu | Val 325 | Thr | Glu | Lys | Met | | | Glu | Glu | Glu | Ala 335 | Glu |
| Leu | Thr | Gln | ;lu | Met | Ser | Pro | Glu | Lys | Léu | Gln | Gln | Tyr | Ara | Gir | Val |
| | | | | | | | | | | | | | | | |
| Наз | | | Ali | De ti | Fit | | | Αcτ | Ali | A1' 1 | | | 7.1 | 1.1 - | ili. |
| | 65 Gln Asn Ser Met Leu 145 Val Phe Asp Ser Pro 225 Ser Lys Gln Val 305 Leu Leu | Gln Thr Asn Asn Ser Gln Met Glu 130 Leu Phe 145 Val Val Phe Asn Asp Leu Ser Phe 210 Pro Leu 225 Ser Asn Lys Leu Lys Val Gln Arg 290 Val Gln 305 Leu Tyr Leu Thr | Gln Thr Gly Asn Asn Leu Ser Gln Asp 115 Met Glu Ser 130 Leu Phe Arg 145 Val Val Ile Phe Asn Ser Asp Leu Glu 195 Ser Phe Gly 210 Pro Leu Val 225 Ser Asn Pro Lys Leu Leu Lys Val Leu 275 Gln Arg Gln 290 Val Gln Gln 305 Leu Tyr Asp Leu Thr Gln | Gln Thr Gly Glu Asn Asn Leu Lys 100 Ser Gln Asp Leu 115 Met Glu Ser Ser 130 Leu Phe Arg Pro 145 Val Val Ile Glu Phe Asn Ser Ser 180 Asp Leu Glu Tyr 195 Ser Phe Gly Gly 210 Pro Leu Val Lys 225 Ser Asn Pro Lys Lys Leu Leu Val 260 Lys Val Leu Phe 275 Gln Arg Gln Phe 290 Val Gln Gln Lys 305 Leu Tyr Asp Leu Leu Thr Gln Glu Hts Leu Thr Gln Glu | Gln Thr Gly Glu Arg 85 Asn Asn Leu Lys Gly 100 Ser Gln Asp Leu Lys 115 Met Glu Ser Ser Lys 130 Leu Phe Arg Pro He 145 Val Val He Glu Thr 165 Phe Asn Ser Ser Ser 180 Asp Leu Glu Tyr Tyr 195 Ser Phe Gly Gly Leu 210 Pro Leu Val Lys Glu 225 Ser Asn Pro Lys Val 245 Lys Leu Leu Val He 260 Lys Val Leu Phe Ala 275 Gln Arg Gln Phe Leu 290 Val Gln Glu Lys Gly 305 Leu Tyr Asp Leu Val 325 Leu Thr Gln Glu Met | 65 | Simple S | Gln Thr Gly Glu Arg Glu Ala Lys 85 Asn Asn Leu Lys Gly Lys Arg Leu 100 Ser Gln Asp Leu Lys Ser Ala Leu 119 Met Glu Ser Ser Lys Glu Asp Lys 130 Leu Phe Arg Pro IIe Glu Glu Leu 145 Val Val IIe Glu Thr Asp met Gln 165 Phe Asn Ser Ser Ser Ser Ser Leu 130 Asp Leu Glu Tyr Tyr Val His Gln 200 Ser Phe Gly Gly Leu Gln Val Val 210 Pro Leu Val Lys Glu Tyr Ala Ala 230 Ser Asn Pro Lys Val Gln Val Glu 245 Lys Leu Leu Val IIe Leu Ala Thr 260 Lys Val Leu Phe Ala Leu Cys Ser 280 Gln Arg Gln Phe Leu Lys Leu Gly 295 Val Gln Glu Dys Gly Thr Glu Val 305 Leu Tyr Asp Leu Val Thr Glu Lys 325 Leu Thr Gln Glu Met Ser Pro Glu Tyr Asp Leu Wal Thr Glu Lys 325 Leu Thr Gln Glu Met Ser Pro Glu Tyr Asp Leu Yal Thr Glu Lys 325 Leu Thr Gln Glu Met Ser Pro Glu Tyr Asp Leu Yal Thr Glu Lys 325 Leu Thr Gln Glu Met Ser Pro Glu Tyr Asp Leu Yal Thr Glu Lys 325 Leu Thr Gln Glu Met Ser Pro Glu Tyr Asp Leu Yal Thr Glu Lys 325 | Gln Thr Gly Glu Arg Glu Ala Lys Leu 85 Asn Asn Leu Lys Gly Lys Arg Leu Asp 100 Ser Gln Asp Leu Lys Ser Ala Leu Ala 115 Met Glu Ser Ser Lys Glu Asp Lys Ala 130 Leu Phe Arg Fro He Glu Glu Leu Lys 145 Val Val He Glu Thr Asp met Gln He 165 Phe Asn Ser Ser Ser Ser Ser Leu Glu 185 Asp Leu Glu Tyr Tyr Val His Gln Met 195 Ser Phe Gly Gly Leu Gln Val Val He 210 Ser Asn Pro Lys Glu Tyr Ala Ala Phe 225 Lys Leu Leu Val He Leu Ala Thr Glu 245 Lys Val Leu Phe Ala Leu Cys Ser Leu Gly 290 Gln Arg Gln Phe Leu Lys Leu Gly Gly 295 Val Gln Gln Che Lys Leu Gly Val Leu Gly 295 Val Gln Gln Che Lys Gly Thr Glu Val Leu 305 Leu Tyr Asp Leu Val Thr Glu Lys Met 325 Leu Thr Gln Glu Met Ser Pro Glu Lys Met 325 Leu Thr Gln Glu Met Ser Pro Glu Lys Leu Chy She Leu Yal Che Thr Glu Met 325 | Gln Thr Gly Glu Arg Glu Ala Lys Leu Gln 85 90 Asn Asn Leu Lys Gly Lys Arg Leu Asp He 100 105 Ser Gln Asp Leu Lys Glu Asp Lys Ala Lys 119 120 Met Glu Ser Ser Lys Glu Asp Lys Ala Arg 130 135 Leu Phe Arg Fro He Glu Glu Leu Lys Lys 145 Val Val He Glu Thr Asp Met Gln He Met 165 170 Phe Asn Ser Ger Ser Ser Ser Leu Glu Glu Glu Leu Lys Lys 195 Asp Leu Glu Tyr Tyr Val His Gln Met Asp 195 Ser Phe Gly Gly Leu Gln Val Val He Asn 210 Pro Leu Val Lys Glu Tyr Ala Ala Phe Val 225 Ser Asn Pro Lys Val Gln Val Glu Ala He 245 Lys Leu Leu Val He Leu Ala Thr Glu Gln 265 Lys Val Leu Phe Ala Leu Cys Ser Leu Leu 275 Gin Arg Gln Phe Leu Lys Leu Gly Gly Leu 290 Val Gln Gln Glo Lys Gly Thr Glu Val Leu Ala 305 Val Gln Gln Glo Lys Gly Thr Glu Val Leu Ala 305 Leu Tyr Asp Leu Val Thr Glu Lys Met Phe 325 Leu Thr Gln Glu Met Ser Pro Glu Lys Leu Heu 326 Has ben ben Ala Leu Ser Pro Glu Lys Leu | 65 | 65 | Gln Thr Gly Glu Arg Glu Ala Lys Leu Gln Tyr Glu Arg 85 | Gin Thr Giy Giu Arg Giu Ala Lys Leu Gin Tyr Giu Arp Lys 85 | Oln Thr Gly Glu Arg Glu Ala Lys Leu Gln Tyr Glu Arg Lys The 85 90 100 Arg Lys The 33 Asn Asn Leu Lys Gly Lys Arg Leu Asp II-0 Asn Thr Asn Thr 7 Sy 110 Ser Gln Asp Leu Lys Ser Ala Leu Ala Lys Phe Lys Glu Gly Ala 115 125 125 125 125 125 125 125 125 125 |

or an a

| | Thr 385 | Leu | Gly | Val | Leu | Leu 390 | Thr | Tar | Cys | Arg | A a p 335 | ÷±a | عاتن | Æg | Gln | Asp 400 | | | |
|----|------------|-----|------------|------------|-------------------------|--------------------------------|-------------------------|----------------------------------|----------------------|------------|---------------------|-------|------------|------------|------------|------------|--|---|--|
| 5 | Pro | Gln | Leu | Gly | Arg 405 | Thr | Leu | Ala | Ser | Leu 410 | glm | Ala | Glu | Tyr | Gln 415 | Val | | | |
| | Leu | Ala | Ser | Leu 420 | Glu | Leu | Gln | Æp | Gly 425 | Glu | Asp | Glu | Gly | Tyr 430 | Phe | Gin | | | |
| 10 | Glu | Leu | Leu 435 | Gly | Ser | Val | Asn | Sar 440 | Leu | Leu | Lys | Glu | Leu 445 | Arg | Xaa | | | | |
| 15 | (2) | INF | OPMA' | SEQU | ENCE | CHA | PACT | FP.IS | TICS | | | | | | | | | | |
| 20 | | | (xi) | (| B) T D) T | YPE: OPOL | amı CGY: | no a nii | | | | : 39 | 4: | | | | | | |
| 25 | 1 | | Ile | | 5 | | | | Thr | Pro 19 | Val | Ser | Ala | qeA | Cys 15 | Phe | | | |
| | Phe | Asn | . Val | Leu 20 | Val | Cys | Phe | Kaa | | | | | | | | | | | |
| 30 | (2) | INF | ORMA | MOIT | FOR | SEQ | ID | NC: | 395: | | | | | | | | | | |
| 35 | | | | (| (A) I (B) T (D) T | .engt : eqy : opol | TH: 2 : ami .OGY: | 04 am ino s 11in | | acid | | : 39 | 5: | | | | | | |
| 40 | Glu 1 | | ı Leu | . Phe | Leu 5 | | Ile | lle | Ile | Leu 10 | | Glu | Ser | Leu | Ser 15 | | | | |
| | Val | Ile | e Leu | Leu 20 | | Cys | Phe | Zaa | | | | | | | | | | | |
| 45 | (2) | TMF | FORMA | וז רדית. | FOR 1 | ರ್.೧ | חד פ | 110 · | 396. | | | | | | | | | | |
| 50 | , | | (i) | SEQU | JENCE (A) I (B) 1 | CHA LENG! TYPE: TOPOI | URACI TH: 1 : ami | TEPLS 35 am ino a : lir | TICS mino acid | : acid | |): 39 | 96 : | | | | | | |
| 55 | Met 1 | | e Tyr | Trp | Gly 5 | | r Leu | . Sar | Phe | Ty∓ 10 | | . Leu | Leu | . Ser | Ser | | | - | |
| 60 | Val | Gly | ∕ Ph∈ | 20 | _ | Phe | e Leu | ı Phe | : Gly 25 | | Gly | Met | Glu | Ile 30 | _ | Ile | | | |

```
Ala Ala Xaa
 5
      (2) INFORMATION FOR SEQ ID NO: 397:
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 3 amino acids
10
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 397:
     Gly Arg Xaa
15
     1
     (2) INFORMATION FOR SEQ ID NO: 39H:
20
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 25 amino acids
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
25
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 398:
     Met Lys Leu Ser Leu Leu Ile Leu Thr Leu Met Gln Arg Tyr Phe Arg
                                        10
30
     Thr Ile Thr Asn Ser Leu Cys Lys Xaa
                20 1:5
35
     (2) INFORMATION FOR SED ID NO: 399:
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LFNGTH: 79 amino acids
                   (B) TYPE: amino acid
40
                   (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 399:
     Met Pro Ala Val Ser Gly Pro Gly Pro Leu Phe Cys Leu Leu Leu Leu
45
     Leu Leu Asp Pro His Ser Pro Glu Thr Gly Cys Pro Pro Leu Arg Arg
     Phe Glu Tyr Lys Leu Ser Phe Lys Gly Pro Arg Leu Ala Leu Pro Gly
50
          35 40
     Ala Gly Tle Pro the Trp Ser His His Sty Gly Gla Gly Gla Sty Tro
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| 5 | | | | (| A) L B) T E·) T | ENGT YPE: OPOL | H: 2 ami CGY: | ERIS' 1 am no a lin PTIO | ino cid ear | acid | | . 40 | n . | | | |
|----|------------|------------|------------|------------|-----------------------|-----------------------|---------------------|--------------------------------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 10 | 1 | | | Phe | Leu 5 | | | Pro | | | | | | Gln | Ser 15 | Leu |
| 15 | (2) | INF | DEMAC | TION | FOR | SEQ | ID 1 | NO: 4 | 1 01: | | | | | | | |
| 20 | | | | (| A) L B) T L) T | ENGT YPE : OPOL | H: 2 ami CGY: | ERIS' 57 a no a lin PTIC | mino cid ear | aci | | : 40 | 1: | | | |
| 25 | Met 1 | Ala | Ala | Leu | Thr 5 | Ser | His | Leu | Gln | Asn 10 | Gln | Ser | Asn | Asn | Ser 15 | Asn |
| | Trp | Asn | Leu | Arg 20 | Thr | Arg | Ser | Lys | Cys 25 | Lys | Lys | Asp | Val | Phe 30 | Met | Pro |
| 30 | Pro | Ser | Ser 35 | Ser | Ser | Glu | Leu | Gln 40 | Glu | Ser | Arg | Gly | Leu 45 | Ser | Asn | Phe |
| 35 | Thr | Ser 50 | Thr | His | Leu | Leu | Leu 55 | Lys | Glu | Asp | Glu | Gly 60 | Val | qzA | Asp | Val |
| | Asn 65 | Phe | Arg | Lys | Val | Arg 70 | Lys · | Pro | Lys | Gly | Lys 75 | Val | Thr | Ile | Leu | Lys 80 |
| 40 | Gly | Ile | Pro | Ile | Lys 85 | Lys | Thr | Lys | Lys | Gly 90 | Суѕ | Arg | Lys | Ser | Cys 95 | Ser |
| | Gly | Phe | Val | Хаа 100 | Ser | Asp | Ser | Lys | Arg 105 | Glu | Ser | Val | Суѕ | Asn 110 | Lys | Ala |
| 45 | Asp | Ala | Glu 115 | Ser | Glu | Pro | Val | Ala 120 | Gln | Lys | Ser | Gln | Leu 125 | Asp | Arg | Thr |
| 50 | Val | Cys 130 | Ile | Ser | Asp | Ala | Gly 135 | Ala | Cys | Gly | Glu | Thr 140 | Leu | Ser | Val | Thr |
| 30 | Ser 145 | Glu | Glu | Asn | Ser | Leu 150 | Val | Lys | Lys | Lys | Glu 155 | Arg | Ser | Leu | Ser | Ser 160 |
| 55 | Gly | Ser | Asn | Phe | Cys 165 | Ser | Glu | Gln | Lys | Thr 170 | Ser | Gly | Ile | Ile | Asn 175 | Lys |
| | Phe | Cys | Ser | Ala 180 | Lys | Asp | Ser | Glu | His 185 | Asn | Glu | Lys | Tyr | Glu 190 | Asp | Thr |

Phe Leu Glu Ser Glu Glu Ile Gly Thr Lys Val Glu Val Val Glu Arg

| | | | 195 | | | | | 200 | | | | | 205 | | | |
|------|------------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Lys | Glu 210 | His | Leu | His | Thr | Asp 215 | Ile | Leu | Lys | Arg | Gly 220 | Sar | Glu | Met | Asp |
| ٥ | Asn 225 | Asn | Cys | Ser | Pro | Thr 230 | Arg | Lys | Asp | Phe | Thr 235 | Glu | Arp | Thr | Ile | Pro 240 |
| 10 | Arg | Asn | Thr | Asp | Arg 245 | Lys | Lys | Glu | Asn | Lys 250 | Pro | Val | Phe | Phe | Gln 255 | Gln |
| | Ile | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| | (2) | INF | ORMAT | rion | FOF: | SEQ | ID 1 | 40: 4 | 102: | | | | | | | |
| 20 | | | (i). | (| A) L B) T D) T | ENGT YPE: OPOL | H: 4 ami OGY: | 24 a no a lin | mino cid ear | aci | | | | | | |
| | | | (xi) | SEQ' | UENC: | E DE. | SCRI | PTIO | N: S | EQ II | D NO | : 40 | 2 : | | | |
| 25 | Met 1 | Glu | Lys | Gln | GAS: | Cys | Ser | His | Pro | Val 10 | Ile | Cys | Ser | Leu | Ser 15 | Thr |
| 30 | Met | Tyr | Thr | Phe 20 | Leu. | Leu | Gly | Ala | Ile 25 | Phe | Ile | Ala | Leu | Ser 30 | Ser | Ser |
| | Arg | Ile | Leu 35 | Leu | Val | Lys | Tyr | Ser 40 | Ala | Asn | Glu | Glu | Asn 45 | Lys | Tyr | Asp |
| 35 | Tyr | Leu 50 | Pro | Thr | Thr | Val | Asn 55 | Val | Суѕ | Ser | Glu | Leu 60 | Val | Lys | Læu | Val |
| | Phe 65 | Cys | Val | Leu | Val | Ser 70 | Phe | Cys | Val | Ile | Lys 75 | Lуз | qaA | His | Gln | Ser 80 |
| 40 | Arg | Asn | Leu | Lys | Tyr 85 | Ala | Ser | Trp | Lys | Glu 90 | Phe | Ser | Уър | Phe | Met 95 | Lys |
| 45 | Trp | Ser | Ile | Pro 100 | Ala | Phe | Ceu | Tyr | Phe 105 | Leu | Asp | Asn | Leu | 11e 110 | Val | Fhe |
| | Tyr | Val | Leu 115 | Ser | געניי | Leu | Gln | Pro 120 | Ala | Met | Ala | Val | 11e 125 | Phe | Ser | Asn |
| 50 | Phe | Ser 130 | Ile | Ile | Thr | Thr | Ala 135 | Leu | Leu | Phe | Arg | 11e 140 | Val | Leu | Lys | Xaa |
| | Ara | T-21; | À πι | They | -1 | erlin | غ دريا | Ala | 77.47 | î eni | I con | دا طِيَ | T | Phin | 7 - 11 | P. Opt |
| | | | | | | | | | | | | | | | | |
| 4.(1 | Sty | Ara | Hy | Fhe 190 | His | His | त्रेयम् | Ala | 195 185 | Pn⊖ | ver | Pir is | | A.m 130 | .`- : | 775 |

| | Leu | Leu | Phe 195 | Arg | Asn | Glu | Cys | Pro 200 | Arg | Lys | Asp | Asn | Cys 205 | Thr | Ala | Lys |
|----|------------|------------|------------|------------|------------------------------|---------------|-------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Glu | Trp 210 | Thr | Phe | Pro | Glu | Ala 215 | Lys | Trp | Asn | Thr | Thr 220 | Ala | Arg | Val | Phe |
| | Ser 225 | His | Ile | Arg | Leu | Gly 230 | Met | Gly | His | Val | Leu 235 | Ile | Ile | Val | Gln | Cys 240 |
| 10 | Phe | Ile | Ser | Ser | Met 245 | Ala | Asn | Ile | Tyr | Asn 250 | Glu | Lys | Ile | Leu | Lys 255 | Glu |
| 15 | Gly | Asn | Gln | Leu 260 | Thr | Glu | Хаа | Ile | Phe 265 | Ile | Gln | Asn | Ser | Lys 270 | Leu | Туг |
| 15 | Phe | Phe | Gly 275 | Ile | Leu | Phe | Asn | Gly 280 | Leu | Thr | Leu | Gly | Leu 285 | Gln | Arg | Ser |
| 20 | Asn | Arg 290 | Asp | Gln | Ile | Lys | Asn 295 | Суп | Gly | Phe | Phe | Tyr 300 | Gly | His | Ser | Ala |
| | Phe 305 | Sei | Val | Ala | Leu | Ile 310 | Phe | Val | Thr | Ala | Phe 315 | Gln | Gly | Leu | Ser | Val 320 |
| 25 | Ala | Phe | Ile | Leu | Lys 325 | Phe | Leu | Asp | Asn | Met 330 | Phe | His | Val | Leu | Met 335 | Ala |
| 30 | Gln | Val | Thr | Thr 340 | Val | Ile | Ile | Thr | Thr 345 | Val | Ser | Val | Leu | Val 350 | Phe | Asp |
| | Phe | Arg | Pro 355 | Ser | Leu | Glu | Phe | Phe 360 | Leu | Glu | Ala | Pro | Ser 365 | Val | Leu | Leu |
| 35 | Ser | 11e 370 | Phe | Ile | Tyr | Ası | Ala 375 | Ser | Lys | Pro | Gln | Val 380 | Pro | Glu | Tyr | Ala |
| | Pro 385 | Arg | Gln | Glu | Arg | Ile 390 | Arg | Asp | Leu | Ser | Gly 395 | Asn | Leu | Trp | Glu | Arg 400 |
| 40 | Ser | Ser | Gly | Asp | Gly 405 | Glu | Glu | Leu | Glu | Arg 410 | Leu | Thr | Lys | Pro | Lys 415 | Ser |
| 45 | qzA | Glu | Ser | Asp 420 | Glu | Asp | Thr | Phe | | | | | | | | |
| | (2) | INFO | OFMAI | поп | FOR | SEQ | ID 1 | VO: 4 | 103: | | | | | | | |
| 50 | | | (i) : | (| ENCE A) L B) T D) T | ENGT YPE : | H: 3 ami | 3 am no a | ino cid | | s | | | | | |
| 55 | | | (xi) | SEQ | J EN C: | E DE | SCRI | PTIO | N: S | EQ II | ON C | : 40 | 3 : | | | |
| | Met 1 | Trp | Gly | Gln | Gly 5 | Ser | Gln | Lys | Ser | His 10 | Phe | Ser | Asp | Leu | Val 15 | Phe |
| 60 | Gly | Val | Arg | Glu 20 | Leu | Cys | Ala | Gln | Pro 25 | Ser | Asp | Pro | Gly | Ser 30 | Pro | His |

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PCT/US98/11422

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| 5 | | | | | | | | | | | | | | | | |
|----------|-----------|-----------|--------------|------------|----------------------|----------------------|---------------------|---------------------|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | (2) | INF | ORMA! | noi1 | FOR | SEQ | ID 1 | NO: 4 | 104: | | | | | | | |
| 10 | | | | (| A) L B) T D) T | ENGT YPE: CPOL | H: 8 ami OGY: | 0 am no a lin | ino . cid ear | acid | | : 40- | 1: | | | |
| 15 | Met 1 | Val | Gln | His | Ile 5 | Gln | Pro | Ala | Ala | Leu 10 | Ser | Leu | Leu | Ala | Gln 15 | Trp |
| 20 | Ser | Thr | Leu | Va.1 20 | Gln | Glu | Leu | Glu | Ala 25 | Ala | Leu | Gln | Leu | Ala 30 | Phe | Tyr |
| | Pro | Asp | Ala 35 | Va. | Glu | Glu | Trp | Leu 40 | Glu | Glu | Asn | Val | His 45 | Pro | Ser | Leu |
| 25 | Gln | Arg 50 | Leu | Gln | Xaa | Leu | Leu 55 | Gln | Asp | Leu | Ser | Glu 60 | Val | Ser | Ala | Pro |
| | Pro 65 | Leu | Pro | Pro | Thr | Ser 70 | Pro | Gly | Arg | Asp | Val 75 | Ala | Gln | Asp | Pro | Xaa 80 |
| 30 35 | (2) | INF | OR MA | rion | FOR | SEQ | ID I | NO: 4 | 405 : | | | | | | | |
| | | | | SEOU | ENCE | CHA | | ERIS | TICS | | s | | | | | |
| 40 | | | (xi) | | D) T | OPOL | ami CGY: SCRI | lin | ear | EQ II | D NO | : 40 | 5 : | | | |
| 45 | Met 1 | Leu | Asn | Gln | Gly 5 | Tyr | Ile | Arg | Lys | Ile 10 | He | Leu | Ile | Ile | Ile 15 | Leu |
| - | Gly | Ser | Phe | Ser 2) | ser | Pro | | Lys | | Ile | Leu | Met | Gly | Phe 30 | Gln | Asn |
| 50 | Gln | Lys | Lys 35 | Ala | Leu | Asn | Glu | Glu 40 | Gln | Thr | Thr | Gly | Val 45 | Pro | Met | Ser |
| | Ile | 507 | 317 | Lys | L+91 | ਔਧ | Pro | Ser | Arq | Ser | Leu | Anp | Pho | Vil | Gln | Pro |

Phe Kir Kir Lyu Ali Ali Ari Ny Ali No No No No No Xir 85 90 95

 $(\Delta_{i,j}) = (i,j) + (\Delta_{i,j}) + (i,j) + (\Delta_{i,j})$

| | (2) | INF | ORMA: | PION | FOR | SEQ | ID I | VO: 4 | 106 : | | | | | | | |
|----|------------|------------|------------|------------|--------------|---------------|-------------|-----------------------------|-------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | | | (i) | (| A) L B) T | ENGT YPE : | H: 2 ami | ERIS 57 a no a lin | mino cid | | ds | | | | | |
| 10 | | | (xi) | SEQ | | | | | | EQ I | D NO | : 40 | 6 : | | | |
| | Met l | Arg | Gly | Pro | Ala 5 | Gln | Ala | Lys | Leu | Leu 10 | Pro | Gly | Ser | Ala | Ile 15 | Gln |
| 15 | Ala | Leu | Val | Gly 20 | Leu | Ala | Arg | Fro | Leu 25 | Val | Leu | Ala | Leu | Leu 30 | Leu | Val |
| | Ser | Ala | Ala 35 | Leu | Ser | Ser | Val | Val 40 | Ser | Arg | Thr | Asp | Ser 45 | Pro | Ser | Pro |
| 20 | Thr | Val 50 | Leu | As:n | Ser | His | Ile 55 | Ser | Thr | Pro | Asn | Val 60 | Asn | Ala | Leu | Thr |
| 25 | His 65 | Glu | Asn | Gln | Thr | Lys 70 | Pro | Ser | Ile | Ser | Gln 75 | Ile | Ser | Thr | Thr | Leu 80 |
| | Pro | Pro | Thr | Thr | Ser 85 | Thr | Lys | Lys | Ser | Gly 90 | Gly | Ala | Ser | Val | Val 95 | Pro |
| 30 | His | Pro | Ser | Pro 100 | Thr | Pro | Leu | Ser | Gln 105 | Glu | Glu | Ala | Asp | Asn 110 | Asn | Glu |
| | Asp | Pro | Ser 115 | Ile | Glu | Glu | Glu | Asp 120 | Leu | Leu | Met | Leu | Asn 125 | Ser | Ser | Pro |
| 35 | Ser | Thr 130 | Ala | Lys | Asp | Thr | Leu 135 | Asp | Asn | Gly | Asp | Туг 140 | Gly | Glu | Pro | Asp |
| 40 | Туг 145 | Asp | Trp | Thr | Thr | Gly 150 | Pro | Arg | Asp | Asp | Asp 155 | Glu | Ser | Asp | Asp | Thr 160 |
| | Leu | Glu | Glu | Asn | Arg 165 | Gly | Tyr | Met | Glu | Ile 170 | Glu | Gln | Ser | Val | Lys 175 | Ser |
| 45 | Phe | Lys | Met | Pro 180 | Ser | Ser | Asn | Ile | Glu 185 | Glu | Glu | Asp | Ser | His 190 | Phe | Phe |
| | Phe | His | Leu 195 | Ile | Ile | Phe | Ala | Phe 200 | Cys | Ile | Ala | Val | Val 205 | Tyr | Ile | Thr |
| 50 | Тут | His 210 | Asn | Lys | Arg | Lys | 11e 215 | Phe | Leu | Leu | Val | Gln 220 | Ser | Arg | Lys | Trp |
| 55 | Arg 225 | Asp | Gly | Leu | Cys | Ser 230 | Lys | Thr | Val | Glu | Туг 235 | His | Arg | Leu | Asp | Gln 240 |
| | Asn | Val | Asn | Glu | Ala 245 | Met | Pro | Ser | Leu | Lys 250 | Ile | Thr | Asn | Asp | Tyr 255 | Ile |
| | Phe | | | | | | | | | | | | | | | |

| 5 | (2) | INF | ORMAT | NOI | FOR | SEQ | ID 1 | JO: 4 | 107: | | | | | | | |
|----|---|------------|------------|-------------|------------|------------|------------|------------|------------|------------|--------------|------------|------------|------------|------------|------------|
| -' | (i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 623 amino acids(B) TYPE: amino acid(D) TOPOLOGY: linear | | | | | | | | | | | | | | | |
| 10 | | | (xi) | | | | | OITS | | EQ II | O N C | : 40 | 7: | | | |
| | Met 1 | Phe | Met | Arg | Ile 5 | Ala | Lys | Ala | Tyr | Ala 10 | Ala | Leu | Thr | Asp | Glu 15 | Glu |
| 15 | Ser | Ar 1 | Lys | Asn 20 | Trp | Glu | Glu | Phe | Gly 25 | Asn | Pro | Asp | Gly | Pro 30 | Gln | Ala |
| 20 | Thr | pierr. | Phe 35 | Gly | He | Ala | Leu | Pro 40 | Ala | Trp | lle | Val | Asp 45 | Gln | Lys | Asn |
| _0 | Ser | 11e 50 | Leu | Val | Leu | Leu | Val 55 | Tyr | Gly | Leu | Ala | Phe 60 | Met | Val | Ile | Leu |
| 25 | Pro 65 | Val | Val | Val | Gly | Ser 70 | Trp | Trp | Tyr | Arg | Ser 75 | Ile | Arg | Tyr | Ser | Gly 80 |
| | Asp | Gln | Ile | Leu | Ile 85 | Arg | Thr | Thr | Gln | Ile 90 | Tyr | Thr | T_7 T | Phe | Val 95 | Tyr |
| 30 | Lys | Thr | Arg | Asn 100 | Met | Asp | Met | Lys | Arg 105 | Leu | Ile | Met | Val | Leu 110 | Xaa | Gly |
| 35 | Ala | Ser | Glu 115 | Phe | Asp | Pro | Gln | Tyr 120 | Asn | Lys | Asp | Ala | Thr 125 | Ser | Arg | Pro |
| 55 | Thr | Asp 130 | Asn | He | Leu | Ile | Pro 135 | Gln | Leu | Ile | Arg | Glu 140 | Ile | Gly | Ser | Ile |
| 40 | Asn 145 | Leu | Lys | Lys | Asn | Glu 150 | Pro | Pro | Leu | Thr | Cys 155 | Pro | Tyr | Ser | Leu | Lys 160 |
| | Ala | Ara | Val | Leu | Leu 165 | L€u | ser | His | Leu | λla 170 | Arg | Met | Lys | He | Pro 175 | Glu |
| 45 | Thr | Leu | Glu | 31:: 120 | Азр | Gln | Gln | Phe | Met 135 | Leu | Lys | Lys | Cys | Pro 190 | Ala | Leu |
| 50 | Leu | Gln | Glu 195 | | Val | Asn | Val | 11e 200 | Cys | Gln | Leu | Ile | Val 205 | Met | Ala | Arg |
| | Asn | Arg 210 | | Glu | Atq | Glu | Phe 215 | | Ala | Pro | Thr | Leu 220 | Ala | Sor | Leu | Glu |
| | | | | | 24% | | | | | | | | | | | |

 60° . And Mal Sec Asm Had by: Evolution for the five Throttle Scholar Leading

. A A A A

| | | | | 260 | | | | | 265 | | | | | 270 | | |
|----|------------|------------|------------|------------|------------|--------------------|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Val | Ser | Leu 275 | Lys | Glu | Ser | Asp | Arg 280 | His | Thr | Leu | Leu | His 285 | Phe | Leu | Glu |
| | Asp | Glu 290 | Lys | Tyr | Glu | Glu | Val 295 | Met | Ala | Val | Leu | Gly 300 | Ser | Phe | Pro | Tyr |
| 10 | Val 305 | Thr | Met | Asp | Ile | Lys 310 | Ser | Gln | Val | Leu | Asp 315 | Asp | Glu | Asp | Ser | Asn 320 |
| | Asn | Ile | Thr | Val | Gly 325 | Ser | Leu | Val | Thr | Val 330 | Leu | Val | Lys | Leu | Thr 335 | Arg |
| 15 | Gln | Thr | Met | Ala 340 | Glu | Val | Phe | Glu | Lys 345 | Glu | Gln | Ser | Ile | Cys 350 | Ala | Ala |
| 20 | Glu | Glu | Gln 355 | Pro | Ala | Glu | Asp | Gly 360 | Gln | Gly | Glu | Thr | Asn 365 | Lys | Asn | Arg |
| | Thr | Lys 370 | Gly | Gly | Trp | Gln | Gln 375 | Lys | 3er | Lys | Gly | Pro 380 | Lys | Lys | Thr | Ala |
| 25 | Lys 385 | Ser | Lys | Lys | Lys | Lys 390 | Pro | Leu | Lys | Lys | Lys 395 | Pro | Thr | Pro | Val | Leu 400 |
| | Leu | Pro | Gln | Ser | Lys 405 | Gln | Gln | Lys | Gln | Lys 410 | Gln | Ala | Asn | Gly | Val 415 | Val |
| 30 | Gly | Asn | Glu | Ala 420 | Ala | 7al | Lys | Glu | Asp 425 | Glu | Glu | Glu | Val | Ser 430 | Asp | Lys |
| 35 | Gly | Ser | Asp 435 | Ser | Glu | Glu | Glu | Glu 440 | Thr | Asn | Arg | Asp | Ser 445 | Gln | Ser | Glu |
| | Lys | Asp 450 | Asp | Gly | Ser | Asp | Arg 4 5 5 | Asp | Ser | Asp | Arg | Glu 460 | Gln | Asp | Glu | Lys |
| 40 | Gln 465 | Asn | Lys | Asp | Asp | Glu 47 0 | Ala | Glu | Trp | Gln | Glu 475 | Leu | Gln | Gln | Ser | Ile 480 |
| | Gln | Arg | Lys | Glu | Arg 485 | Ala | Leu | Leu | Glu | Thr 490 | Lys | Ser | Lys | Ile | Thr 495 | His |
| 45 | Pro | Val | Τγτ | Ser 500 | Leu | Tyr | Phe | Pro | Glu 505 | Glu | Lys | Gln | Glu | Trp 510 | Trp | Trp |
| 50 | Leu | Tyr | Ile 515 | Ala | Asp | Arg | Lys | Glu 520 | Gln | Thr | Leu | Ile | Ser 525 | Met | Pro | Tyr |
| | His | Val 530 | Cys | Thr | Leu | Lys | Asp 535 | Thr | Glu | Glu | Val | Glu 540 | Leu | Lys | Phe | Pro |
| 55 | Ala 545 | Pro | Gly | Lys | Pro | Gly 550 | Asn | Tyr | Gln | Tyr | Thr 555 | Val | Phe | Leu | Arg | Ser 560 |
| | Asp | Ser | Tyr | Met | Gly 565 | Leu | Asp | Gln | Ile | Lys 570 | Pro | Leu | Glu | Val | Xaa 575 | Lys |
| 60 | Phe | Met | Arg | Leu | Lys | Pro | Val | Pro | Glu | Asn | His | Pro | Gln | Trp | Asp | Thr |

| | | | | 580 | | | | | 585 | | | | | 590 | | |
|----|------------|------------|------------|------------|--------------|--------------|-------------|--------------|--------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Ala | Ile | Glu 595 | Gly | Asp | Glu | Asp | Gln 600 | Glu | Asp | Ser | Glu | Gly 605 | Phe | Glu | Asp |
| ٥, | Ser | Phe 610 | Glu | Gly | Gly | Arg | Gly 615 | Arg | Glu | Glu | Gly | Arg 520 | Trp | 'Irp | Thr | |
| 10 | (2) | INFO | DRMA1 | ricn | FOF: | SEO | ID: | JO: 4 | 1 08: | | | | | | | |
| | | | | | | | | | rics | | | | | | | |
| 15 | | | | (| A) L B) T | ENGT YPE: | H: l amí | 90 a no a | mino cid | | ds | | | | | |
| | | | (xi) | | D) T UENC | | | | ear N: Sl | EQ II | D NO | : 40 | 8: | | | |
| 20 | Mot 1 | Lys | Ala | Sor | Oln Ş | ැය | Суз | Cys | Cys | Leu 10 | Ser | His | Leu | ren | Ala 15 | Ser |
| | Val | Leu | Leu | Leu 20 | Leu | Leu | Leu | Pro | Glu 25 | Leu | Ser | Gly | Хаа | Leu 30 | Kaa | Val |
| 25 | Leu | Leu | Gln 35 | Ala | Ala | Glu | Ala | Ala 40 | Pro | Gly | Leu | Gly | Pro 45 | Pro | Asp | Pro |
| 30 | Arg | Pro 50 | Arg | Thr | Leu | Pro | Pro 55 | Leu | Pro | Pro | Gly | Pro 60 | Thr | Pro | Ala | Gln |
| 50 | Gln 65 | Pro | Gly | Arg | Gly | Leu 70 | Ala | Glu | Ala | Ala | Gly 75 | Pro | Arg | Gly | Ser | Glu 80 |
| 35 | Gly | Gly | Asn | Gly | Ser 85 | Asn | Pro | Val | Ala | Gly 90 | Leu | Glu | Thr | Asp | Asp 95 | His |
| | Gly | Gly | Lys | Ala 100 | Gly | Glu | GĮy | Ser | Val 105 | ЗІу | Gly | Gly | Leu | Ala 110 | Val | Ser |
| 40 | Pro | Asn | Pro | Gly | Asp | Lys | Pro | Met 120 | Thr | Gln | Arg | Ala | Leu 125 | Thr | Val | Leu |
| 15 | Met | Val 130 | Val | Ser | Gly | Ala | Val 135 | Leu | Val | Tyr | Phe | Val 110 | Val | Аrŋ | Thi | Val |
| 45 | Arq 145 | Ment | Arj | Arg | Arg | Asn 150 | Arg | Lys | Thr | Arq | Arg 155 | Tyr | Gly | Val | Leu | Asp 160 |
| 50 | Thr | Asn | Ile | Glu | Asn 165 | Met | Glu | Leu | Thr | Pro 170 | Leu | Glu | Gln | Asp | Asp 175 | Glu |
| | Asp | Asp | Asp | Asn | Thr | Læu | Phe | Asp | Ala | Asn | His | Pro | Arg | Ara | | |

(i) CEQUENCE CHAPACTERISTICS:
(A) LEDSTH: 17) amin a vida

 $(x_{i_1}, x_{i_2}, \dots, x_{i_k}, x_{i_k}, \dots, x_{i_k}, x_{i_k}, \dots, x_{i_k}, \dots, x_{i_k}, \dots, x_{i_k})$

| | | | (xi) | , | Bi T D) T VENT | SFOL | CGT: | 111 | ear | EQ I | J 110 | : 40 | 9 : | | | |
|---------------|------------|------------|------------|------------|------------------------------|--------------|-------------|--------------|-------------|------------|-----------|------------|------------|------------|------------|------------|
| 5 | Met 1 | | Pro | Ser | 31y | .wg | Leu | Cys | leu | Deu 18 | Thr | Ile | Val | Gly | Leu 15 | Ile |
| 10 | Leu | Pro | Thr | Amg 20 | Sly | Gln | The | Leu | Lys 25 | ga4. | Thr | Thr | Ser | Ser 30 | Sar | Ser |
| | Ala | Àsp | Ser 35 | | ile | Mat | Asp | Ile 40 | Gin | Val | Pro | Thr | Amg 45 | Ala | Pro | Asp |
| 15 | Ala | Val 50 | | The | 3.1 | Lera | Gln 55 | | Thr | Ser | Pro | Thr 60 | Pro | Thr | طتئ | Pro |
| | Ala 65 | | Slu | 7.22 | Pri | | | Gln | The | Gln | Thr 75 | Gln | Gln | Leu | Glu | Gly 80 |
| 20 | Thr | Azp | Sly | Pro | Leu 83 | Val | Thr | λΞp | Pro | Glu 90 | Thr | His | Lys | Ser | Thr 95 | Lys |
| 25 | Ala | Ala | His | 275 135 | Trr | ,Tib | Æр | īæ | 7.6± 105 | Thr | Leu | Ser | Glu | Arg 110 | Pro | Ser |
| | Pro | Ser | Thr 115 | | Va. | Gla | The | Asp 120 | Pro | Gln | Thr | Leu | Lys 125 | Pro | Ser | Gly |
| 30 | Phe | His 130 | | lap. | Am | 270 | Phe 135 | | Tyr | Asp | Glu | His 140 | Thr | Leu | Arg | Lys |
| | Arg 145 | | leu | 1 eta | Val | ALLa 150 | Ala | Val | leu | Phe | 11e | Thr | Gly | Ile | īle | Ile 160 |
| 35 | Leu | The | Ser | ply | Lys 165 | Cyrs | Arg | Glm | Leu | Ser 170 | æg | Leu | Cys | Arg | Asn 175 | His |
| 40 | Cys | Arp | Maa | | | | | | | | | | | | | |
| | (2) | DF | OFMA1 | TION | FCE | SEQ | ID : | NC: 4 | 110: | | | | | | | |
| 45 | | | (i) | ! | ENCE A) L B) I D) I | eigt 172: | H: 1 ami | 4 am no a | ino cid | | ŝ | | | | | |
| 50 | Mat | | | SEÇ | UZ II | E DE | SCFI. | PTIC | V: SI | | | | | | | |
| | met 1 | | –ys | υys | læi E | المات | -52 | -ar | rne | Leu 10 | rne | 11e | хаа | хаа | | |
| 55 | (2) | _VF(| ORMA! | ::::::: | FOR | SEQ | ID : | NO: 4 | 111: | | | | | | | |
| 60 | | | (i) | (| ENCE A) L | o ga | H: 2 | 32 a | محنح | | ds | | | | | |
| \mathcal{M} | | | | i | 3) T | YPE: | 27.1 | no a | cid | | | | | | | |

(D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 411:

| 5 | Met l | Leu | Ala | Gly | Lyc S | Leu | He | Pro | Val | His | Gln | Val | Arg | Gly | Leu 15 | Lys |
|----|------------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Glu | Lys | Ile | Val 20 | Arg | Ser | Pne | Glu | Val 25 | Her | Pro | Asp | Gly | Ser 30 | Phe | Leu |
| 10 | Leu | Ile | Asn 35 | Gly | Ile | Ala | Gly | Tyr 40 | Leu | His | Leu | Leu | Ala 45 | Met | Lys | Thr |
| 15 | Lys | Glu 50 | Leu | He | Gly | Jer | Met 55 | Lys | Ile | Asn | Gly | Arg 60 | Val | Ala | Ala | Ser |
| | Thr 65 | ₽ħe | Ser | Ser | Asp | Ser 70 | Lys | Lys | Val | Tyr | Ala 75 | Ser | Ser | Gly | Asp | Gly 80 |
| 20 | Glu | Val | Tyr | Val | Trp 85 | Asp | Val | Asn | Ser | 90 Arg | Lys | 4مل) | T.mii | Asn | Arg 95 | Pho |
| | Val | Asp | Glu | Gly 100 | Ser | Leu | Tyr | Gly | Leu 105 | Ser | Ile | Ala | Thr | Ser 110 | Arg | Asn |
| 25 | Gly | Gln | Tyr 115 | Val | Ala | Суз | Gly | Ser 120 | Asn | Cys | Gly | Val | Val 125 | Asn | Il | Tyr |
| 30 | Asn | Gln 130 | Asp | Ser | Cys | Leu | Gln 135 | Glu | Thr | Aon | Pro | Lys 140 | Pro | Ile | Lys | Ala |
| | 11e 145 | Met | Asn | Leu | Val | Thr 150 | Glγ | Val | Thr | Ser | Leu 155 | Thr | Phe | Asn | Pro | Thr 160 |
| 35 | Thr | Glu | Ile | i.eu | Ala 165 | Ile | Ala | Ser | Glu | Lys 170 | Met. | Lys | Glu | Ala | Val 175 | Arg |
| | Lėu | Val | His | Leu 180 | Pro | Ser | Cys | Thr | Val 185 | Fhe | Ser | Asn | Phe | Pro 190 | Val | He |
| 40 | Lys | Asn | Lys 195 | Asn | Ile | Ser | His | Val 200 | His | Thr | Met | Asp | Phe 205 | Ser | Pro | Arg |
| 45 | Per | 31y 210 | Tyr | Phe | Ala | Leu | Gly 215 | Asn | Glu | Lys | Gly | Lys 220 | Ala | Leu | Met | Tyr |
| | Arg 025 | Leu | His | His | Tyr | Ser 230 | Агр | Pho | | | | | | | | |
| 50 | (2) | INFO | PMAT | ICN | FOR | SEQ | ID N | Ю: 4 | 1fer | | | | | | | |

(i) DEQUENCE CHARACTERISTICS:

| | Gly | Ser | Ser | Arg 20 | Gly | Ser | Ser | Ala | Ser 25 | Leu | Thr | Pro | Ser | Pro 30 | Gly | Arg | | |
|----|-----------|-----------|-----------|------------|---------------------------------------|-----------------------|---------------------|---------------------|--------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|--|--|
| 5 | Gln | Pro | Cys 35 | Ser | Arg | Arg | Arg | Gly 40 | Tyr | Ser | Val | Gly | Arg 45 | Arq | Ser | Ser | | |
| 10 | Pro | Pro 50 | Asp | Gly | Ser | Xaa | | | | | | | | | | | | |
| | (2) | INF | ORMAT | rioi1 | FOR | SEQ | ID 1 | VC: 4 | 113: | | | | | | | | | |
| 15 | | | | (| ENCE A) L B) T E) T UENCI | ENGT YPE: OPCL | H: 3 ami OGY: | 3 am no a lin | ino cid ear | acid | | : 41 | 3 : | | | | | |
| 20 | Met 1 | Ser | Leu | Gln | Ser 5 | Asn | Ala | Trp | Ser | Lys 10 | Xaa | Leu | Phe | Ile | Val 15 | Phe | | |
| 25 | Leu | Phe | Leu | Arg 20 | Val | Leu | Phe | Lys | Thr 25 | Gly | Val | Ser | Ser | Glu 30 | Glu | Ser | | |
| | Хаа | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | |
| | (2) | INF | DRMA! | rion | FCR | SEQ | ID 1 | NO: 4 | 114: | | | | | | | | | |
| 35 | | | | (| ENCE A) L B) T E) T UENCI | ENGT YPE : OPOL | H: 2 ami OGY: | 19 a no a lin | mino cid ear | aci | | : 41 | 4 : | | | | | |
| 40 | Met 1 | Ala | Val | Val | Leu 5 | Leu | Ala | Asn | Leu | Ala 10 | Gln | Gly | Asp | Ser | Leu 15 | Ala | | |
| 45 | Ala | Arg | Ala | 11e 20 | Ala | Val | Gln | Lys | Gly 25 | Ser | Ile | Gly | Asn | Leu 30 | Leu | Gly | | |
| | Phe | Leu | Glu 35 | Asp | Ser | Ĺeu | Ala | Ala 40 | Thr | Gln | Phe | Gln | Gln 45 | Ser | Gln | Ala | | |
| 50 | Ser | Leu 50 | Leu | His | Met | Gln | Asn 55 | Pro | Pro | Phe | Glu | Pro 60 | Xaa | Ser | Val | Asp | | |
| | Met 65 | Met | Arg | Arg | Ala | Ala 70 | Arg | Ala | Leu | Leu | Ala 75 | Leu | Ala | Lys | Val | Asp 80 | | |
| 55 | Glu | Asn | His | Ser | Glu 85 | Phe | Thr | Leu | Tyr | Glu 90 | Ser | Arg | Leu | Leu | Asp 95 | Ile | | |
| 50 | Ser | Val | Ser | Pro 100 | Leu | Met | Asn | Ser | Xaa 105 | Val | Ser | Gln | Val | Ile 110 | Cys | Asp | | |

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| | Val | Leu | Phe 115 | Leu | Xaa | Trp | Pro | Val 120 | Met | Thr | Ala | Va1 | Gly 125 | His | Leu | Pro |
|----|------------|------------|------------|------------|----------------------|------------------------|----------------------|---------------------|---------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Pro | Pro 130 | | Val | Cys | λla | Cys 135 | Val | Glu | Asn | Leu | Glu 140 | Thr | Asp | Cys | Суѕ |
| | Pro 145 | L∻u | Phe | Met | Gln | Asn 150 | His | Leu | Arg | Ile | Gln 155 | Fhe | Thr | Leu | Cys | Cys 160 |
| 10 | Pro | Ala | Ser | Pro | Leu 165 | Gly | Lys | Ser | Leu | Ser 170 | Cys | Phe | Ser | Leu | Leu 175 | Leu |
| 15 | Pro | Pro | Pro | Leu 180 | Pro | Pro | Ser | Pro | Ніз 185 | Ala | Phe | Leu | Phe | Lau 190 | Val | Leu |
| • | Thr | Leu | Leu 195 | Pro | Ser | Gly | Pro | 17r 200 | Pro | Thr | Leu | Phe | Glu 205 | Lys | Thr | Lys |
| 20 | Leu | Cys 210 | Leu | His | Arg | Arg | Leu 215 | Pho | Leu | Phē | Хаа | | | | | |
| | (2) | INF | DPMA1 | rton | 903 | SEO | יו חד | in. | 115. | | | | | | | |
| 25 | , | | (i): | SEQU) | | CHAI | RACTI | ERIS | FICS | | S | | | | | |
| 30 | | | (xi) | (| B) T | YPE: OPOL | ami: OGY: | no a lin | cid ear | | | . 411 | ξ. | | | |
| | | | (251) | ⊃u.V | O EMVC: | s de. | SCR1 | FIIO | N: 51 | EQ II | 5 140 | : 41 L | J: | | | |
| | Mert. 1 | Leu | Pro | Asp | Glu 5 | Ser | Phe | Gly | Leu | Leu 10 | Leu | Ser | Ile | Pro | S⇔r 15 | Leu |
| 35 | Thr | Pro | Ser | Ala 20 | Ala | Ala | Pro | Ser | Phe 25 | Cys | Val | His | Leu | Mert 30 | Gln | Ala |
| 40 | Ser | Arg | Ser 35 | Ser | Lys | Arg | Ala | Ser 40 | His | Val | Pro | Val | His 45 | Leu | Leu | Trp |
| | Gly | Arp 50 | Kaa | | | | | | | | | | | | | |
| 45 | (2) | T 1 TT 1 | | | | | | | | | | | | | | |
| | V 4. 7 | 1.71 | PMAT | . T [1 | F. H. | SM2 | 11) 1 | K_ : . | llt: | | | | | | | |
| 50 | | | (i) . | (| A) L B) T D) T | ENGT: YPE: OPOL/ | H: 5 ami: OGY: | 0 am no a lin | ino . cid ear | acid | | : 41: | 5 : | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

 60° . Den Glim Len Glim Lyn Lens Glim And The Lens Lens Via Mod. Also just see a

| | | 35 | | | 40 | | | | | 45 | | | | | |
|----|-----------|------------------|-----------------|---|------------------------|---------------------|-----------|-------|-----------|-----------|-----------|-----------|-----|---|---|
| 5 | Arg | Xaa S0 | | | | | | | | | | | | | |
| | (2) | INFORMAT: | ION FOR S | SEQ ID I | NO: 4 | 17: | | | | | | | | | |
| 10 | | (i) S | (B) TY | CHARACT INGTH: 7 PE: ami POLOGY: | 0 am: no ac | ino . cid | | s | | | | | | | |
| 15 | | (xi) | SEQUENCE | DESCRI | PTION | 1: SI | EQ II | ON C | : 41 | 7 : | | | | | |
| | Asp 1 | Arg Pro (| Cys Pro S 5 | Ser Ser | Leu | Trp | Lys 10 | Val | Phe | Pro | Leu | Leu 15 | Leu | | |
| 20 | Leu | Leu Met A | Arg Leu E 20 | Phe Pro | Leu | Pro 25 | Val | Pro | Gly | Asn | Gln 30 | Arg | Ala | | |
| | Хэа | Leu Pro F 35 | His Pro E | Phe Xaa | Ala 40 | Pro | Arg | Leu | Pro | Суs 45 | Leu | Leu | Cys | | |
| 25 | Leu | Cys Thr (50 | Gln Gln E | Phe Xaa 55 | Val | Cys | Ser | His | Tyr 60 | Leu | Pro | Ala | Gly | | |
| 30 | Туг 65 | Arg Val <i>I</i> | Asn Ser > | Xaa 70 | | | | | | | | | | | |
| | (2) | INFORMAT | ION FOR S | SEQ ID 1 | NO: 4 | 18: | | | | | | | | | |
| 35 | | (i) S | (B) TY | CHARACT NGTH: 4 PE: ami POLOGY: | 0 ami no ac | ino a | | 5 | | | | | | | |
| 40 | | (xi) | SEQUENCE | | | | EQ II |) NO: | : 418 | 3 : | | | | | |
| 70 | Met 1 | His Glu I | Lys Ala 1 5 | Trp Asn | Leu | Ile | Leu 10 | Leu | Trp | Trp | Leu | Ser 15 | Leu | | |
| 45 | Asp | Leu Leu (| Gly Val A 20 | Ala Lys | Thr | Ala 25 | Met | Trp | Ala | Gln | Trp 30 | Cys | Gly | | |
| | Leu . | Asn Asp H 35 | dis Lys C | Gly Lys | Xaa 40 | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | |
| | (2) | INFORMAT | ION FOR S | SEQ ID 1 | JO: 4 | 19: | | | | | | | | | |
| 55 | | | (B) TY | NGTH: 2 PE: ami POLOGY: | 2 ami no ac line | ino a cid ear | acids | | : 419 | Ð : | | | | ~ | - |
| 60 | Met . | Ala Phe V | Jal Leu I | Leu Xaa | Cys | Phe | Val | Xaa | Leu | Gln | Ser | Ser | Xaa | | |
| | | | | | | | | | | | | | | | |

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1
                                                   25
      Gly Arg Ala Val Glm Xaa
        20
 5
      (2) INFORMATION FOR SEQ ID MO: 400.
10
           (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 33 amin, acids
                   (B) TYPE: amano soir
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 420:
15
     Met Phe Ser Leu Leu Trp Leu Val Cys Val Pro Der Abn Ger Ber Val
     Ala Ash Val Thr Ala Ser Arg Gly Gly Val The Lys Arg Ser Lou Gly
20
       20 25 30
     His Glu Gly Phe Ser Xaa
           35
25
     (2) INFORMATION FOR SEQ ID NO: 421:
            (i) SEQUENCE CHARACTERISTICS:
30
                  (A) LENGTH: 35 amins acids
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: DEC ID NO: 101:
35
     Lys Trp Leu Leu Phe Ile Phe Leu Lei Tys Lei Gin Leu Val Ash Ala
     Lou Lou Ser Leu Phe Gln Glu Arg Phe Val His Cyp Pro Ala Arg Phe
             20 25
40
     Val Ser Xaa
45
     (C) INFORMATION FOR SEQ ID NO: 422:
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 33 amino acids
50
                  (B) TYPE: amino acid
                 (D) TOPOLOGY: linear
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 482:
```

60

 $N_{\rm eff} = 0.003 \, {\rm Mpc}^{-1} \,$

| 5 | (2) INFORMATION FOR SEQ ID NO: 423: |
|----|--|
| 10 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 127 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 423: |
| 15 | Met Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys 1 5 10 15 |
| | Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly 20 25 30 |
| 20 | Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr Ile 35 40 45 |
| | His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val Leu 50 55 60 |
| 25 | Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu Ala 65 70 75 80 |
| 30 | Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys Ile Met Cys Val Ala 85 90 95 |
| | Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile Phe 100 105 110 |
| 35 | Ard Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser Xaa 115 120 125 |
| 40 | (2) INFORMATION FOR SEQ ID NO: 424: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 69 amino acids |
| 45 | (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 424: |
| | Met Thr Trp His Ser Arg Glu Ser Phe Xaa Leu Leu Arg Val Val Ala 1 5 10 15 |
| 50 | Pro Ser Gln Ala Pro Gly Met Gln Val Ser Pro Ser Gln Arg Ala Trp 20 25 30 |
| 55 | Arg Arg Pro Leu His Arg Cys His Val Ala Ala Pro Arg Pro His His 35 40 45 |
| | Phe Ala Phe Phe Arg Asn Pro Phe Ser Trp Ser Phe Ile Lys Leu Leu 50 60 |
| 60 | Tyr Arg Tyr Leu Xaa 65 |

| 5 | (2 |) 1111 | FOFM | ATIOI | V FOR | R SE | Q ID | NO: | 425 | : | | | | | | |
|-----|-----------|------------|-----------|---------------------------------------|--|------------------------|---------------------|--|----------------------|-----------|-------|-----------|-------------|-------------|-----------|------------|
| 10 | | | | | (A) (B) ' (D) ' | LENG TYPE TOPO | TH: : am LOGY | TERI: 92 a ino : : li: IPTIO | mino acid near | aci | | D: 41 | 25 : | | | |
| | Ме | t Gly 1 | / Let | ı Lys | Let 5 | ı Asr | ı Gly | / Arg | ı Tyr | : Ile | | r Leu | ı Ile | e Dest | Ala 15 | |
| 15 | Gli | n Ile | ≥ Ala | Tyr 20 | Leu | ı Val | . Glr | ı Ala | Val | | j Ala | a Ala | ı Gly | r Lys 30 | | s Ası |
| 20 | Ala | a Val | . Fhe | Lys | Gly | Phe | · Ser | Asp 40 | Cys | Leu | ı Let | ı Lys | : Leu 45 | | · Asp | Th: |
| 20 | Tr | Pro 50 | Thr | Thr | Arg | Ser | Leu 55 | ı Gly | Arg | Gln | . Asp | Glu 60 | | Gln | Asp | Arc |
| 25 | Va] 65 | His | Ile | Leu | Gly | Gly 70 | Phe | Pro | Gln | Leu | His | | His | Ser | Pro | Ту1 8 (|
| | Glγ | / Leu | Pro | Gly | Arg 85 | Gly | Glu | Arg | Tyr | Val 90 | Gly | Хаа | | | | |
| 30 | | | | | | | | | | | | | | | | |
| | (2) | INF | OFMA | TION | FOR | SEQ | ID | NO: | 426: | | | | | | | |
| 35 | | | | ((| A) LB) TD) T | FINGT YPE : OPOL | H: 3 ami OGY: | ERIS 180 a no a lin Prio | minc cid ear | aci | | : 42 | 6: | | | |
| 40 | Mert 1 | Ala | Arg | Arg | Ser 5 | Ala | Phe | Pro | Ala | Ala 10 | Ala | Leu | Trp | Leu | Trp 15 | Ser |
| 45 | 11: | Lou | Leu | Суз 20 | Leu | beu | Ala | Leu | Arg 25 | Ala | Glu | Ala | Gly | Pro | Pro | Gln |
| 127 | Glu | Glu | See 35 | Leu | ŊŦ | Leu | Trp | 13e 40 | Агр | Ala | ніз | Oln | Al. 45 | Ar4 | Val | Leu |
| 50 | Ile | Gly 59 | Phe | Glu | Glu | Asp | Ile 55 | Leu | Ilė | Val | Ser | Glu 60 | Gly | Lys | Met | Ala |
| | Pro 65 | Phys | Thr | His | Asp | Phe | Aιq | lya | Ala | Gln | Gln | Arq | Met | Pro | Ala | 110 |
| 60 | 4 ° 4 ° 4 | | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | ly: | 1. : | I nje | 1 | . • : 1 ^ : | læ. | Art | . est | 1 - +4 | Argo 110 | i ya | (4) y |

A. . A. Balla

| | Ile | e Met | 115 | ı Asp |) Pro | 7hr | - Val | . Asr 120 | | . Pro |) Let | ı Leu | Gly 125 | | · Val | . Pro |
|-------|------------|------------|------------|------------|------------|------------|--------------|--------------|-----------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | His | 130 | s Ala | a Ser | · Val | l Val | . Glr 135 | | . Gly | · Phe | Pro | Cys 140 | | ı Gly | . Lys | Gln |
| | Asp 145 | Gly | / Val | . Ala | Ala | Phe 150 | | ı Val | Asp | Val | 11e | | Met | : Asn | Ser | Glu 160 |
| 10 | Gly | / Asn | Thr | · Ile | Leu 165 | Gln | . Thr | Pro | Gln | Asn 170 | | ılle | Phe | Phe | Lys | |
| 15 | Cys | Gln | Gln | Ala 180 | Glu | Cys | Pro | Gly | Gly 185 | | Arg | / Asn | Gly | Gly | | Cys |
| | Asn | Glu | Arg 195 | Arg | Ile | : Cys | Glu | Cys 200 | | Asp | Gly | Phe | His 205 | | Fro | His |
| 20 | Cys | Glu 210 | Lys | Ala | Leu | Cys | Thr 215 | | Arg | Cys | Met | Asn 220 | Gly | Gly | Leu | Cys |
| | Val 225 | Thr | Pro | Gly | Phe | Суs 230 | Ile | Cys | Pro | Pro | Gly 235 | i/he | Tyr | Gly | Val | Asn 240 |
| 25 | Cys | Asp | Lys | Ala | Asn 245 | Cys | Ser | Thr | Thr | Cys 250 | Phe | Asn | Gly | Gly | Thr 255 | Cys |
| 30 | Phe | Tyr | Pro | Gly 260 | Lys | Cys | Ile | Хаа | Pro 265 | Pro | Gly | Leu | Glu | Gly 270 | Glu | Gln |
| | Cys | Glu | Ile 275 | Ser | Lys | Oys | Pro | Gln 280 | Pro | Cys | Arg | Asn | Gly 285 | Gly | Lys | Cys |
| 35 | T∴e | Gly 290 | Lys | Ser | Lys | Cys | Lys 295 | Xaa | Ser | Lys | Gly | Tyr 300 | Gln | Gly | Asp | Leu |
| | Cys 305 | Ser | Lys | Pro | Val | Суs 310 | Glu | Pro | Gly | Cys | Gly 315 | Ala | His | Gly | Thr | Cys 320 |
| 40 | His | Glu | Pro | Asn | Lys 325 | Суз | Gln | Cys | Gln | Glu 330 | Gly | Trp | His | Gly | Arg 335 | His |
| 45 | Cys | Asn | Lys | Arg 340 | Tyr | Glu | Ala | Ser | Leu 345 | Ile | His | Ala | Leu | Arg 350 | Pro | Ala |
| - === | Gly | Ala | Gln 355 | Leu | Arg | Gln | His | Thr 360 | Pro | Ser | Leu | Lys | Lys 365 | Ala | Glu | Glu |
| 50 | Arg | Arg 370 | Asp | Pro | Pro | Glu | Ser 375 | Asn | Тут | Ile | Trp | Xaa 380 | | | | |
| 55 | (2) | INFO |)PMAT | NOI | FOR | SEQ | ID N | 10:4 | 27: | | | | | | | |
| | | 1 | (i) s | () | 4) L | | H: 24 | am: | TICS: ino a cid | | 5 | | | | | |
| 60 | | , | (xi) | (I |) TY | OPOLO | XGY: | line | ear | Q II |) NO: | : 427 | : | | | |

| | Met 1 | Thr | Ser | Asn | Leu 5 | Leu | Leu | Leu | Thr | 1eu 10 | Leu | Leu | Ьуз | qzA | Thr 15 | Leu |
|----|-----------|------------|-----------|-----------|----------------------|--------------------------|---------------------|----------------------|--|-------------|-----------------|---------------|-----------|-----------|-------------|-------|
| 5 | Хаа | Leu | Ala | Lys 20 | Xaa | Asn | Хаа | Xaa | | | | | | | | |
| 10 | (2) | IIF | ORMA' | иоіл | FOR | SEQ | ID I | NO: · | 423: | | | | | | | |
| 15 | | | | (| A) I B) T D) T | ENG'I 'YPE : 'OPOL | H: 4 ami OGY: | 7 am no a lin | | asid | | : 42 | 3 : | | | |
| 20 | Met 1 | | His | His | Thr 5 | | Leu | Asn | Pne | 11e 10 | Phe | Leu | Val | Glu | Мент 15 | Val |
| 20 | Phe | Lou | His | Val 20 | | Gln | Ala | Gly | Leu 25 | | Leu | £ごう | Thr | Ser 30 | Gly | ್ಷವ್ |
| 25 | Хза | . Ala | Cys 35 | | Gly | Len | Pro | Lys 40 | | Leu | Gly | Leu | Gln 45 | Ala | Хаа | |
| 30 | (2) | INI | | SEÇU | JEN 101 | E CHA | \RAC' | reri3 | 429: STICS | S: | | | | | | |
| 35 | | | (xi) | | (B) ' | TYPE TOPO | : am LOCY | ino a | | | |): 4 2 | 39: | | | |
| 40 | | : Cys l | s Ser | . Aug |) Xa., ! | | | | | | | | | | | |
| | (2) | 111 | FOPM | AT ICI | I FO | R SE(|) ID | NO: | 4 30: | | | | | | | |
| 45 | | | | | (A) (B) (D) | LENG TYPE TOPO | TH : am LOGY | 144 sinc ': li | STIC: amin acid near CN: . | ೧ ಮ | | O: 40 | 30: | | | |
| 50 | Le | u Le : | u Se: | r Il- | | u Ler 5 | u Cy | s Le | u Let | u Ala 10 | | r Glj | y Lei | ı Val | l Val 15 | Phe |
| | וּילָי זּ | ea (so | u Ph | e þy | n Hi | .s : (144 | r Mi | j j- | er Mai | j | n Air | n Ant | r 91 | y Tje | ⊆ (pro | (V.) |
| 60 | M· | t Al | ı Ti. | i De | . L., | . [] | ty Ai c | | n sin | : 5: | :: . : . | | : Ti. | r La | 1 | e Val |

| | Thr 65 | Ser | Leu | Ser | Ser | Gln 70 | Ile | Gln | Tyr | Met | Asn 75 | Thr | Val | Val | Asn | Phe 80 | |
|----|-----------|------------|------------|------------|-------------------------|------------------------|------------------------|------------------------|----------------------|-----------|-----------|---------------|------------|------------|-----------|-----------|--|
| 5 | Thr | Gly | Lys | Ala | Glu 85 | Met | Gly | Gly | Pro | Phe 90 | Ser | Tyr | Val | Тут | Phe 95 | Phe | |
| 10 | Cys | Thr | Val | Pro 100 | Glu | Ile | Leu | Val | His 105 | Asn | Ile | Val | Ile | Phe 110 | Met | Arg | |
| 10 | Thr | Ser | Val 115 | Lуз | Ile | Ser | Tyr | Ile 120 | Gly | Leu | Met | Thr | Gln 125 | Ser | Ser | Leu | |
| 15 | Glu | Thr 130 | | His | Tyr | Val | Asp 135 | Cys | Gly | Gly | Asn | Ser 140 | Thr | Ala | Ile | Xaa | |
| | | | | | | | | | | | | | | | | | |
| 20 | (2) | INF | ORMA | TICN | FOR | SEO | ID : | NO: | 431: | | | | | | | | |
| 25 | | | | | (A) I (B) T (D) T | ENGT YPE : YOPOI | H: 3 ami OGY: | 7 am no a lir | mino acid near | acid | |): 4 3 | 1: | | | | |
| 30 | Met 1 | | e Phe | Phe | Leu 5 | | Val | Tyr | Ser | Val | | . Cys | Gly | Leu | Leu 15 | Val | |
| 35 | Tyr | Pro | Ser | Leu 20 | | Ser | His | Ser | Val 25 | | Leu | Val | Thr | Ser 30 | | Val | |
| | Ala | . Ser | Ala 35 | i L∈u | : Xaa | | | | | | | | | | | | |
| 40 | (2) | INE | FORMA | 10ITA | l FOR | : SEÇ |) ID | NC): | 432: | | | | | | | | |
| 45 | | | | | (A) : (B) : (D) : | LENG TYPE TOPO: | TH: : : am. LOGY | 37 ar ino a : li | mino acid near | acio | | D: 41 | 32: | | | | |
| 50 | | E Ala | a Sei | r Ile | e Asr | | a Val | LTyr | : Ile | e His | | L Ph∈ | e Lei | ı Gly | / Val | Cys | |
| | Va. | l Gli | n Ala | a Thi | | a Alá | a Cys | s Pro | o Tri 25 | | s Sei | c Glr | ı Cys | arg 30 | | a Gly | |
| 55 | Se: | r Va | 1 Pro | o Sei | c Kaa | 1 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

 $60\,$ (2) information for SEQ ID NO: 433:

| 5 | | | (i) ((xi) | (; (; (; | A) LI B) T D) T | ENGT! YPE : OPOL(| f: 1: amir DGY: | 92 ar no ao line | mino cid zar | acio | | : 431 | 3: | | | |
|------------|------------|-----------|---------------|----------------|-----------------------|-------------------------|-----------------------|------------------------|--------------------|--------------|------------|------------|------------|------------|------------|------------|
| 10 | 1 | | Ala | | 5 | | | | | 10 | | | | | 15 | |
| | Gln | Ser | Pro | Pro 20 | Gly | Thr | Glu | Ala | Asn 25 | Phe | Ser | Ala | Ser | 30 30 | Ala | Ala |
| 15 | Cys | Asp | Pro 35 | Trp | Lys | Glu | Ser | Gly 40 | Asp | Ile | Ser | Asp | Ser 45 | Glγ | Хаа | Ser |
| | Thr | Thr 50 | Ser | Gly | His | Trp | Ser 55 | Gly | Ser | Ser | Gly | Val 60 | Ser | Thr | Pro | Ser |
| 20 | Pro 65 | Pro | His | Pro | Gln | Ala 70 | Ser | Pro | Lys | Tyr | Leu 75 | Gly | Asp | Ala | Phe | Gly 30 |
| 25 | Ser | Pro | Gln | Thr | Asp 85 | His | Gly | Phe | Glu | Thr 90 | qzA | Pro | Asp | Fro | Phe 95 | Leu |
| - J | Leu | Asp | Glu | Pro 100 | | Pro | Arg | Lys | Arg 105 | | Asn | Ser | Val | Lys 110 | Val | Met |
| 30 | Tyr | Lys | Суs 115 | Leu | Trp | Pro | Asn | Cys 120 | Gly | Lys | Val | Leu | Arq 125 | Ser | Ile | Val |
| | Gly | 11e | Lys | Arg | His | Val | Lys 135 | | Leu | His | Leu | Gly 140 | | Thr | Val | Asp |
| 35 | Ser 145 | | Gln | Phe | Lys | Arg 150 | | Glu | Asp | Phe | Tyr 155 | | Thr | Glu | Val | Glr 160 |
| 40 | Leu | Lys | s Glu | Glu | Ser 165 | | Ala | Ala | Ala | . Ala 170 | | Ala | . Ala | Ala | Asp 175 | |
| 40 | Sln | ı Ser | . Leu | Gly 180 | | Pro | Pro | Pro | Ser 189 | | Leu | . Pro | Pro | Pro 190 | | . Xaa |
| 45 | | | | | | | | | | | | | | | | |
| 50 | (2) | 111 | FOFM | TICI | 1 FOF | R SEÇ | Q ID | NO: | 434 | | | | | | | |
| | | | (i) | SEÇ | (A) | E CHA | TH: | 31 ai | mino | asi | alar | | | | | |

 60° . As Typ. Lem Byr 1859 His His His lem in Mal Free Au. Inc. Xar

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| 5 | (2) | INFO | RMAT | .IOI1 | FOR | SEQ | 1 DI | 10:4 | 35: | | | | | | | |
|----|-----------|-----------|-----------|------------|-----------------------|------------------------|-------------------------|-------------------------|----------------------|-----------|-----------|---------------|-----------|-----------|-----------|-----------|
| 0 | | | | €1 | A) LI B) T D) T | ENGT: YPE : OPOL | H: 1 ami: OGY: | 01 an no ao line | mino cid ear | acio | | : 435 | ō: | | | |
| 5 | Met 1 | Gly | Phe | Phe | Phe 5 | Val | Leu | I he | Phe | Leu 10 | Tyr | Leu | Ala | Leu | Ser 15 | Arg |
| J | qaA | Trp | Ser | Ile 20 | Asn | Phe | Leu | I.ys | Asp 25 | His | Arg | Ile | Asn | Pho 30 | Phe | Val |
| 0 | Ala | Thr | Ser 35 | דייִד | Phe | Ser | Val | Tyr 40 | Val | Arg | Gly | Xaa | Pro 45 | Xaa | Val | Pro |
| | Ala | qaA 50 | Thr | Pro | Leu | Gly | Pro 55 | Leu | Leu | Ser | Leu | Trp | Leu | His | His | Asn |
| 5 | Ala 65 | Phe | Phe | Ser | Ile | Leu 70 | Pro | Lys | Phe | Pro | Glu 75 | Asn | Хаа | Xaa | Phe | Leu 80 |
| 0 | Ile | Leu | Lys | Lys | Leu 85 | Val | Val | Glu | Met | Gly 90 | Trp | Asp | Leu | Phe | Ile 95 | Ser |
| | Pro | Glu | Asn | Lys 100 | Xaa | | | | | | | | | | | |
| 5 | (2) | IMF | OEMA | TIC:1 | FOR | SEQ | ID: | NO: - | 436: | | | | | | | |
| 10 | | | | (| A) L B) T D) T | ENGT YPE: OPOI | TH: 3 : ami LOGY: | 37 am .no a : lir | uino Icid Iear | acid | | o: 4 3 | 6: | | | |
| 15 | Met 1 | | . Arg | Tyr | Phe 5 | Ile | Phe | Phe | Ile | Leu 10 | Val | Phe | Met | Lys | Val 15 | Ser |
| | Leu | Asn | Thr | Thr 20 | | Pro | Ala | . Pro | Arg 25 | | Ala | Thr | Leu | Arg 30 | | Ala |
| 50 | Asn | Lys | Ser 35 | Lys | Xaa | | | | | | | | | | | |
| 55 | (2) | INF | ORMA | TICN | FOR | SEÇ |) ID | :C4 | 437 : | | | | | | | |
| | | | (i) | | (A) I | LENG | TH: | TERIS 42 ar ino a | nino | | is | | | | | |

(D) TOPOLOGY: linear

| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 437: Phe Ser Thr Ile Arg Ser Gly Leu Thr Asp Arg Ser Val Ash Phe Leu | | | | | | | | | | | | | |
|----|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 5 | Phe Ser Thr Ile Arg Ser Gly Leu Thr Asp Arg Ser Val Ash Phe Leu 1 5 10 15 | | | | | | | | | | | | | |
| _' | Phe Leu Phe Leu Asp Val Pro Asp Cys Arg Leu Val Abn Ile Glu Leu 20 25 30 | | | | | | | | | | | | | |
| 10 | Met Ala Asn Ser Thr Val Thr His Ala Xaa 35 40 | | | | | | | | | | | | | |
| 15 | (2) INFORMATION FOR SEQ ID NO: 438: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 1 amino acids (B) TYPE: amino acid | | | | | | | | | | | | | |
| 20 | (D) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 438: | | | | | | | | | | | | | |
| | Leu 1 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | |
| | (2) INFORMATION FOR SEQ ID NO: 439: | | | | | | | | | | | | | |
| 30 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 25 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 439: | | | | | | | | | | | | | |
| 35 | Met Pro Trp Arg Arg Ala Gly Leu Met Met Leu Pro Ile Ile Thr Gly 1 5 10 15 | | | | | | | | | | | | | |
| 40 | Cys Cys Pro Cys Sor Ala ter Ile Xaa 20 25 | | | | | | | | | | | | | |
| | (2) INFORMATION FOR SEQ ID NO: 440: | | | | | | | | | | | | | |
| 45 | (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 54 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (X1) SEQUENCE DESCRIPTION: SEQ ID NO: 440: | | | | | | | | | | | | | |
| 50 | Met Tyr Lea Cys Lys Thr Val Lys Val Lea Ile Cys Tyr Acp Trp Ile 1 6 16 | | | | | | | | | | | | | |
| | . The constant along the Alexander and the second of the 4% | | | | | | | | | | | | | |

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| 5 | (2) INFORMATION FOR SEQ ID NO: 441: | | | | | | | | | | | | | | |
|----|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 10 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 42 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 441: Met Thr Ala Leu Val Trp Arg Lys Gly Pro Asp Gly Gly Ser Arg Lys 1 10 15 | | | | | | | | | | | | | | |
| 15 | 1 10 15 | | | | | | | | | | | | | | |
| | Pro Ile Leu Leu Phe Phe Phe Leu Pro Leu Ile Leu Cys Phe His | | | | | | | | | | | | | | |
| 20 | Ser Phe Ile His Ser Ser Asn Ile Cys Xaa 35 40 | | | | | | | | | | | | | | |
| 25 | (2) INFORMATION FOR SEQ ID NO: 442: | | | | | | | | | | | | | | |
| | (i) SEQUENCE CHARACTERISTICS: (A) LFNGTH: 66 amino acids (B) TYPE: amino acid | | | | | | | | | | | | | | |
| 30 | (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 442: | | | | | | | | | | | | | | |
| | Met Phe Leu Thr Trp Phe Leu Leu Ser Val Ala Trp Xaa Ala 1 5 10 15 | | | | | | | | | | | | | | |
| 35 | Leu Thr Arg Ser Gly Arg Ser Cys Leu Pro Leu Val Gly Arg Pro Arg 20 25 30 | | | | | | | | | | | | | | |
| 40 | Glu Gln Ser Pro Arg Thr His Cys Ala Ala Ser Ser Thr Lys Glu Arg 35 40 45 | | | | | | | | | | | | | | |
| | Asn Ser Asp Pro Gln Pro Ser Pro Pro Glu Val Val Gly Pro Leu Trp 50 55 60 | | | | | | | | | | | | | | |
| 45 | Ser Xaa 65 | | | | | | | | | | | | | | |
| 50 | (2) INFORMATION FOR SEQ ID NO: 443: | | | | | | | | | | | | | | |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 156 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear | | | | | | | | | | | | | | |
| 55 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 443: | | | | | | | | | | | | | | |
| | Met Lys Ala Ile Gly Ile Glu Pro Ser Leu Ala Thr Tyr His His Ile 1 5 10 15 | | | | | | | | | | | | | | |
| 60 | Ile Arg Leu Phe Asp Gln Pro Gly Asp Pro Leu Lys Arg Ser Ser Phe | | | | | | | | | | | | | | |

| | | | | 20 | | | | | 25 | | | | | 30 | | |
|-----|------------|------------|-------------|-------------|---------------|----------------|-----------------------|----------------|----------------------|-----------|------------|---------------|------------|-------------|-------------|------------|
| _ | He | Ile | Tyr 35 | Алр | Ile | Met | Asn | 31u 40 | Leu | Mert. | Gly | Lys | Arg 45 | Phe | Ser | Pro |
| 5 | Lys | qaA 02 | Pro | App | Asp | Asp | Lyo 55 | Phe | Phe | Gin | Ser | Ala 60 | Met | Ser | Il⊎ | Cys |
| 10 | Ser 65 | Ser | Leu | Arg | Asp | Leu 70 | Glu | Leu | Ala | Tyr | Gln 75 | Val | His | Gly | Leu | Leu 80 |
| | Lys | Thr | Gly | Asp | Asn 85 | Trp | Lys | Phe | Ile | Gly 90 | Pro | Asp | Gln | His | Aig 95 | Asn |
| 15 | Phe | Tyr | Tyr | Ser 100 | Lys | Phe | Phe | Asp | Leu 105 | He | ∵ys | Leu | Met | 61u 116 | Gln | Ile |
| 20 | Asp | Val | Thr 115 | Lesu | Lys | Trp | Tyr | Glu 120 | Asp | Leu | Ile | Pro | Ser 125 | Ala | Тут | Phe |
| 20 | Pro | His 130 | Ser | Gln | Thr | Met | Ile 135 | | Leu | Leu | Gln | Ala 140 | Leu | Aup | Val | Ala |
| 25 | Asn 145 | Arg | Leu | Glu | Väl | Ile 150 | | Lys | He | Trp | Glu 155 | | | | | |
| 30 | (2) | IME | | | FNCE (A) : | IYPE | RACI IH: ! : am | TERIS 57 an | TICS mino acid | | is | | | | | |
| 35 | | | (xi) | | | ropoi ce di | | | | SEQ I | D N | D: 4 4 | 14: | | | |
| | Met 1 | | : Phe | e Leo | Phe r | | ; Pho | e Ile | y Val | . Phe | | e Tyr | Lea | ı Tipp |) Gly 15 | z Leu 5 |
| 4() | Fhe | Thr | r Ala | ı Glr 20 | | g Gl: | ı Lys | s Lys | 3 Gli 25 | | ı Sez | r Thi | : Glu | ı Glu 37 | | l Lys |
| 45 | | | 3: 5 Len | | | | | an O Les | | | s Sex | t Lyn | Thi | 7 Jul | : Ly: | a Lya |
| 50 | (2) |) Itii | FORM | ATIO: | T FO | R SE | ð ID | M): | 445 | : | | | | | | |
| | | | ٠. | | , TES | 1 1 1 | | 1.5.0 | 1. | | | | • | | | |
| 60 | M | t Ar | r Th | r Le | n Ph | e+ A.3 r | n Le | u Le | ni fr | je Le | u Al | a 1.47 | n Al | (4 - 17) | 3 . Per | r Pro |

| | Val | His | Thr | Thr 20 | Leu | Ser | Lys | Ser | Агр 25 | Ala | Lys | Lys | Ala | Ala 30 | Ser | Lys |
|----|------------|------------|------------|------------|------------|------------|--------------|------------|------------|------------|------------|------------|--------------|------------|------------|--------------|
| 5 | Thr | Leu | Leu 35 | Glu | Lys | Ser | Gln | Phe 40 | Ser | Asp | Lys | Pro | Val 45 | Gln | Asp | Arg |
| 10 | Gly | Leu 50 | Val | Val | Thr | Asp | Leu 55 | Lys | Ala | Glu | Ser | Val 60 | Val | Leu | Glu | His |
| 10 | Arg 65 | Ser | Tyr | Cys | Ser | Ala 70 | Lys | Ala | Arg | Asp | Arg 75 | His | Phe | Ala | Gly | Asp 80 |
| 15 | Val | Leu | Gly | Tyr | Val 85 | Thr | Pro | Trp | Asn | Ser 90 | His | Gly | Tyr | Азр | Val 95 | Thr |
| | Lys | Val | Phe | Gly 100 | Ser | Lys | Phe | Thr | Gln 105 | Ile | Ser | Pro | Val | Trp 110 | Leu | Gln |
| 20 | Leu | Lys | Arg 115 | Arg | Gly | Arg | Glu | Met 120 | Phe | Glu | Val | Thr | Gly 125 | Leu | His | qaA |
| 25 | | 130 | | | | | 135 | | | Arg | | 140 | | | | |
| | His 145 | Ile | Val | Pro | Arg | Leu 150 | Leu | Phe | Glu | Asp | Trp 155 | Thr | Tyr | quA | Asp | Phe 160 |
| 30 | Arg | Asn | Val | Leu | Anp 165 | Ser | Glu | Asp | Glu | 11e 170 | Glu | Glu | Leu | Ser | Lys 175 | |
| | Val | Val | Gln | Val 180 | Ala | Lys | Asn | Gln | His 185 | Phe | Asp | Glγ | Phe | Val 190 | Val | Glu |
| 35 | Val | Trp | Asn 195 | | Leu | Leu | Ser | Gln 200 | | Arg | Val | Gly | Leu 205 | | His | Met |
| 40 | Leu | Thr 210 | | Leu | Ala | Glu | Ala 215 | | His | Gln | Ala | Arg 220 | | Leu | Ala | . Leu |
| | Leu 225 | | Ile | Pro | Pro | Ala 230 | | Thr | Pro | Gly | Thr 235 | | Gln | . Leu | . Gly | Met 240 |
| 45 | Phe | Thr | His | | Glu 245 | | | | | Ala 250 | | Val | Leu | Asp | Gly 255 | Phe |
| | Ser | Leu | . Met | Thr 260 | | Asp | Tyr | Ser | Thr 265 | | . His | Gln | Pro | Gly 270 | | Asn |
| 50 | Ala | Pro | Leu 275 | | Trp | Val | . Arg | Ala 280 | | : Val | Gln | ı Val | . Leu 285 | | Pro | Lys |
| 55 | Ser | Lys 290 | | Arg | Ser | Lys | : Ile 295 | | ı Leu | ıGly | Leu | 300 | | e Tyr | : Gly | / Met |
| - | Asp 305 | | Ala | Thr | · Ser | 1 Lys | | Ala | a Arg | , Glu | 315 | | . Val | . Gly | / Ala | a Arg 320 |
| 60 | Tyr | Il∈ | e Glr | Thr | Leu 325 | | asp | His | s Arg | 330 | | g Met | : Val | Trp | 335 | Ser |

| | Gln : | Xaa | Ser | G1u 340 | His | Phe | Phe | Glu | Тух 345 | Lys | Lys | Ser | Αiq | Ser 350 | Gly | Arg |
|----|------------|------------|--------------|-------------|-------------------------|-------------------------|------------------------|-------------------------|----------------------|------------------|------------|---------------|-------------|-------------|------------|------------|
| 5 | His | Val | Val 355 | Phe | Tyr | Pro | Thr | Leu 360 | Lys | Ser | Leu | Gln | Val 365 | Arq | Leu | Glu |
| 10 | Leu | Ala 370 | Arg | Glu | Leu | Gly | Val 275 | Gly | Val | Ser | Ile | 1rp 380 | Glu | Leu | Ala | Arg |
| 10 | Ala 385 | Tıp | Thr | Thr | Ser | Thr 390 | Thr | Сур | Ser | Arq | Trp 395 | Ala | Leu | Arg | Pro | Pin 400 |
| 15 | Arg | Trp | Thr | Cys | Ser 405 | Phe | Leu | Ser | His | Gly 410 | Vil | Ser | Glu | Gln | Val 415 | Каа |
| 20 | (2) | -TMI | or ma | TION | FOR | SEQ | ID | NO: | 44 6: | | | | | | | |
| 25 | | | | | (A) I (B) I (D) I | LENGT TYPE: TOPOI | TH: 6 : am: LCGY | 54 am ino a : lir | | ació | |): 4 4 | 16: | | | |
| 30 | Met 1 | Ala | Pro | Gly | Pro | | ı Ser | - Ala | . Thr | Gln 10 | | Val | . Val | Il÷ | His 15 | |
| 35 | Thr | His | : Сус | : Let 20 | | ı Let | ı Pro | . Val | . Trp 25 | | : Leu | ı Ser | : Leu | . Val 30 | | Glu |
| | Leu | Let | 35 Gly | | y Ala | n Pro | Pro | His | Asr | ı Lys | : Asr | Al. | a Leu 49 | | Pro | Ser |
| 40 | Lys | Lys 50 | | s Lys | s Lys | s Lys | 5 Let 5: | | a Gly | / Gly | r Pro | 5 Va. | | > Ile | Pro | Pro |
| 45 | | | | | | | | | 4.45 | | | | | | | |
| | (2) | IM | | | | | | | 447 STIC | | | | | | | |
| 50 | | | , | | (A) (B) (D) | LFNG TYPE TOPO | NTH: : an :LOG: | 206 ino ': li | amin acid near | ര മ റ | | | | | | |
| | | | | | | | | | | | | | | | | |

Styling is then the formula to a Lea A. a Lea (4). As a few data the A. a (4).

| | Gln | Glu | Gly 35 | Ser | Glu | Pro | Val | Leu 40 | Leu | Glu | Gly | Glu | Cys 45 | Leu | Val | Val |
|-----|------------|-------------|------------|------------|-------------------------|--------------------------|----------------------|-------------------------|----------------------|------------|------------|---------------|-------------|------------|------------|------------|
| 5 | Cys | Glu 50 | Pro | Gly | Arg | Ala | Ala 55 | Ala | Gly | Gly | Pro | Gly 60 | Gly | Ala | Ala | Leu |
| | Gly 65 | Glu | Ala | Pro | Pro | Gly 70 | Arg | Val | Ala | Phe | Ala 75 | Ala | Val | Arg | Ser | Хаа 80 |
| 10 | His | His | Glu | Pro | Ala 85 | Gly | Glu | Thr | Gly | Asn 90 | Gly | Thr | Хаа | Gly | Ala 95 | Ile |
| 15 | Тут | Phe | Asp | Gln 100 | Val | Leu | Val | Asn | Glu 105 | Gly | Glγ | Gly | Phe | Asp 110 | Arg | Ala |
| 1.7 | Ser | Gly | Ser 115 | Phe | Val | Ala | Pro | Val 120 | Ar _' j | Gly | Val | Туг | Ser 125 | Phe | Arg | Phe |
| 20 | His | Val 130 | Val | Lys | Val | Tyr | Asn 135 | Arg | Gln | Thr | Val | Gln 140 | Val | Ser | Leu | Met |
| | Leu 145 | Asn | Thr | Trp | Pro | Val 150 | Ile | Ser | Ala | Phe | Ala 155 | | Asp | Pro | Asp | Val 160 |
| 25 | Thr | Arg | Glu | Ala | Ala 165 | Thr | Ser | Ser | Val | Leu 170 | Leu | Pro | Leu | Asp | Pro 175 | Gly |
| 30 | Asp | Arg | Val | Ser 180 | Leu | Arg | Leu | Arg | Arg 185 | | Asn | . Leu | Leu | Gly 190 | Gly | Trp |
| 50 | Lys | Tyr | Ser 195 | Ser | Phe | Ser | Gly | Phe 200 | | Ile | Phe | Pro | Leu 205 | | | |
| 35 | (2) | INF | ORMA | NCIT. | FOR | SEQ | ID | NO: | 448: | | | | | | | |
| 40 | | | | | (A) I (B) 1 (D) 1 | LENG! TYPE : TOPOI | TH: (am: LOGY | 52 ar ino a : lir | mino acid near | acio | | D: 4 4 | 18: | | | |
| 45 | Met 1 | | Ser | Leu | Leu 5 | | Ala | a Gly | / Leu | Glr 10 | | a Ser | : Leu | ı Cys | Gly 15 | Lys |
| | Xaa | ı Lei | ı Trţ | Ala 20 | | Thr | Tr | yr | Let 25 | | . Суз | s Cys | : Let | Leu 30 | | Phe |
| 50 | Ph∈ | e His | Glr 35 | | и Суз | ; Cys | : Asp | His | | s Ser | . Lys | s Glr | ı Glr 45 | | ∃Il€ | Pro |
| 55 | Asr | n Lei 5(| | s Ser | тут | c Cys | 55 55 | | ı Sei | Thr | r Ile | e Gli 60 | | e Xaa | ì | |
| | (2) |) IN | FORM | 10ITA | 1 FOR | R SE(| Z ID | NO: | 449 | : | | | | | | |
| 60 | | | (i) | SEQ | UEI1C | E CH | ARAC | TERI | STIC | S: | | | | | | |

| (A) LENGTH: | 316 | amino | acida |
|-------------|-----|-------|-------|
|-------------|-----|-------|-------|

(B) TYPE: amino acid

(D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 443: 5 Met Ser Thr Lys Lys Leu Cys Ile Val Gly Gly Ile Leu Leu Val Phe 1.0 Gln Ile Ile Ala Fhe Leu Val Gly Gly Leu Ile Ala Pro Gly Pro Thr 10 2.5 Thr Ala Val Ser Tyr Met Ser Val Lys Cys Val Asp Ala Arg Lys Asn His His Lys Thr Lys Trp Phe Val Pro Trp Gly Pro Acn His Cys Asp 15 Lys lle Arg Asp Ile Glu Glu Ala Ile Pro Arg Glu Ile Glu Ala Asn 20 Asp Ile Val Phe Ser Val His Ile Pro Leu Pro His Met Glu Met Ser 90 Pro Trp Phe Gin Phe Met Kaa Phe Ile Leu Gin Leu Asp Ile Ala Phe 25 105 100 Lys Leu Asn Asn Gln Ile Arg Glu Asn Ala Glu Val Ser Met Asp Val 115 120 125 Ser Leu Ala Tyr Arg Asp Asp Ala Phe Ala Glu Trp Thr Glu Met Ala 30 His Glu Arg Val Pro Arg Lys Leu Lys Cys Thr Phe Thr Ser Pro Lys 150 155 35 Thr Pro Glu His Gly Gly Pro Val Thr Met Asn Val Met Ser Phe Leu 170 165 Ser Trp Lys Leu Gly Leu Trp Pro Met Lys Phe Tyr Leu Leu Asn Ile 40 Arg Leu Pro Val Arn Glu Dys Lys Lys Ile Arn Val Gly Ile Gly Glu 200 The Lys Asp Ile Ary Lea Val Gly Ile His Gln Ash Gly Gly The Thr 45 2.15 Lys Val Trp Phe Ala Met Lys Thr Phe Leu Thr Pro Ser Ile Phe Ile 235 225 230 50 lle Met Val Trp Tyr Trp Arg Arg Ile Thr Met Met Cor Arg Ero Pro 250

60 Met les beribe bly Autille And Ala Tenuter Met Was Tym Phe-

| | 290 | 295 | | 300 | |
|----|--------------------------|--|-------------------|-----------------------------|---|
| 5 | Xaa Pro Ser Gly S 305 | er Ser Ser Val Ala 310 | a Ser Thr 315 | Хэа | |
| | (2) INFORMATION F | OR SEO ID NO: 450 | : | | |
| 10 | (A (B | CE CHARACTERISTIC LENGTH: 24 amino TYPE: amino acid | acids | | |
| 15 | |) TOPOLOGY: linear INCE DESCRIPTION: | | : 450: | |
| | Met Leu Ala Leu I 1 | eu Gly Leu Leu Al 5 | a Gly Thr 10 | Glu His Pro Pro Gly 15 | |
| 20 | Pro Gln Gly Pro (20 | ily Pro Ser Xaa | | | |
| 25 | | FOR SEQ ID NO: 451 | | | |
| 30 | (A) (B) (E) | NCE CHARACTERISTIC) LENGTH: 10 amino) TYPE: mmino acio) TOPOLOSY: linear ENCE LESCRIPTION: | o acids d r | · 451· | |
| 50 | | Ala Cys Cys Ser Pr 5 | | | |
| 35 | | | | | |
| | (2) INFORMATION | FOR SEQ ID NO: 452 | 2 : | | |
| 40 | () () () | NCE CHARACTERISTICA) LENGTH: 26 amin B) TYPE: amino aci D) TOPOLOGY: linea VENCE DESCRIPTION: | o acids d r | D: 452: | |
| 45 | Met Leu Pro Ala 1 | Leu Ser Thr Val Lo 5 | eu Leu Pro 10 | o Thr Pro Ser Leu Cys 15 | |
| 50 | Ser Gly Asn Pro 20 | Arg Glu Gly Trp A | la Xaa 25 | | |
| | (2) INFORMATION | FOR SEQ ID NO: 45 | 3: | | |
| 55 | ((| ENCE CHARACTERISTI A) LENGTH: 172 ami B) TYPE: amino aci D) TCPOLOGY: linea | ino acids id | | · |
| 60 | | UENCE DESCRIPTION: | | 0: 453: | |

| | Met 1 | Tyr | Ser | Leu | His | Ser | Tip | Val | Gly | Leu 10 | lle | Ala | Val | Ile | Cys 15 | Тут |
|----|------------|------------|---------------|-------------|-------------------------|-----------------------|-----------------------|---|----------------------|---------------|------------|---------------|---------------|------------|-----------|------------|
| 5 | Leu | Leu | Gln | Leu 20 | Leu | Ser | Gly | Phe | Ser 25 | Val | Phe | I,≓u | Leu | Pro 30 | Trp | Ala |
| | Pro | Leu | Ser 35 | Leu | Arg | Ala | Phe | Leu 40 | Met | Pro | Ile | His | Val 45 | Tyr | Ser | Gly |
| 10 | Ile | Val 50 | Ile | Phe | Gly | Thr | Val 55 | Ile | Ala | Thr | Ala | Leu 60 | Met | Gly | Leu | Thr |
| | Glu 65 | Lys | Leu | Ile | Phe | Ser 70 | Leu | Arg | Asp | Pro | Ala 75 | Туr | Ser | Thr | Pne | Pro 80 |
| 15 | Pro | Glu | $G1\gamma$ | Val | Phe 85 | Va! | Asn | Thr | Leu | Gly 90 | Leu | Pent | Ile | Leu | Va1 95 | Phe |
| 20 | GΙΆ | Ala | Leu | 11e | Phe | Trp | Ile | Val | Tlu 105 | Arg | Pro | Gln | Trp | Lys 110 | Æg | Pro |
| | Lys | Glu | Pro 115 | | Ser | Thr | Ile | Leu 120 | His | Pro | Asn | Gly | Gly 125 | Thr | Gtu | Gln |
| 25 | Gly | Ala 130 | | Gly | Ser | Met | Pro | Ala | Tyr | Ser | Gly | Asn 140 | Asn | Met | Азр | Lys |
| 20 | Ser 145 | | Ser | Glu | Leu | Asn 150 | | Glu | Val | Ala | Ala 155 | | Lys | Arg | Asn | Leu 160 |
| 30 | Ala | Leu | Asp | Glu | Ala 165 | | Gln | Arg | Ser | Thr 170 | Met | Xaa | | | | |
| 35 | (3) | INF | ORMA | MCIT. | FOR | SEQ |) ID | NO: | 454: | | | | | | | |
| 40 | | | | | (A) I (B) 5 (D) 7 | LENG TYPE TOPOI | TH: ! : am LOGY | CERIS 96 am ino a : lir IPTIC | mino acid near | ació | |): 4 5 | 5 4 : | | | |
| 45 | Mest 1 | | · His | s Val | . 12-0: 5. | | Ala | a Glm | . Val | Thr 10 | | ı Val | . <u>11</u> 6 | · 110 | Thr U | |
| | Va] | . Ser | c Val | l Let 20 | | Phe | e Asp | o Phe | 25 | | Sex | i Dou | ı Glu | Phe 30 | | : Leu |
| 50 | Glu | ı Ald | a X.a.; 3° | | r Val | . Kar | a Let | 1 Ser 40 | | e Phe | : Ile | : Туз | - Asr 45 | | i S≃i | Lys |
| | | | | | | | • | | | .1. | | ٠. | . • | *. • | . • . | τ |
| | | | | | | | | | | | | | | | | |
| 60 | Aı | 1 1 | n Th | i by: | n li | 17: | | r A.4 | a + 31° | 1 (e.) 07 | r Aug | 41* | i Arj | 5 Tr.: | i Ede | - Kaa |

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| 5 | | | | | | | | | | | | | | | | |
|---|------------|------------|------------|------------|-----------------------|---------------------------------|----------------------|------------------------|--------------------|-------------|------------|------------|------------|------------|-----------|------------|
| | (2) | INFO | PMAT | NOI. | FOR | SEQ | ID N | 0:4 | 55 : | | | | | | | |
| 0 | | | | () () | A) LI B) T D) T | CHAR ENGTH YPE: OPOLO | i: 17 amir XY: | 71 ar no ac line | mino :id ∋ar | acio | | : 455 | <u>.</u> | | | |
| 5 | Met 1 | Arg | Gly | Pro | Ala 5 | Gln | Ala | Lys | Leu | Leu 10 | Pro | Gły | Ser | Ala | Ile 15 | Gln |
| ` | Ala | Leu | Val | Gly 20 | Leu | Ala | Arg | Pro | Leu 25 | Val | Leu | Ala | Leu | Leu 30 | Leu | Val |
|) | Ser | Ala | Ala 35 | Leu | Ser | Ser | Val | Val 40 | Ser | Arg | Thr | Asp | Ser 45 | Pro | Ser | Pro |
| 5 | Thr | Val 50 | Leu | Asn | Ser | His | Ile 55 | Ser | Thr | Pro | Asn | Val 60 | Asn | Ala | Leu | Thr |
| | His 65 | Glu | Asn | Gln | Thr | Lys 70 | Pro | Ser | Ile | Ser | Gln 75 | Ile | Ser | Thr | Thr | Leu 80 |
|) | Pro | Pro | Thr | Thr | Ser 85 | Thr | Lys | Lys | Ser | Gly 90 | Gly | Ala | Ser | Val | Val 95 | Pro |
| 5 | His | Pro | Ser | Pro 100 | | Pro | Leu | Ser | Gln 105 | Glu | Glu | Ala | Asp | Asn 110 | Asn | Glu |
| | Asp | Pro | Ser 115 | | Glu | Glu | Glu ~ | Asp 120 | Leu | Leu | Met | Leu | Asn 125 | Ser | Ser | Pro |
|) | Ser | Thr 130 | | Lys | Asp | Thr | Leu 135 | Asp | Asn | Gly | Asp | Tyr 140 | | Glu | Pro | Asp |
| | Tyr 145 | |) Trp | Thr | Thr | Gly 150 | Pro | Arg | Asp | Asp | Asp 155 | | Ser | Asp | Xaa | His 160 |
| 5 | Leu | Gly | / Arg | Lys | : Gln 165 | Gly | Leu | His | Gly | Asn 170 | | | | | | |
|) | (2) | INE | FORMA | MOITA | 1 FOF | R SEQ | ID | NO: | 4 56 : | | | | | | | |
| 5 | | | (i) | SEQ | (A) : | e cha Lengi Type Topoi | TH: 9 : am: | 92 ar ino a | mino acid | aci | ds | | | | | |
| ٠ | | | (xi |) SE | | CE DE | | | | SEQ : | ID NO | D: 4 | 56: | | | |
| | | Ly: l | s Ala | a Se | | n Cys 5 | Cys | s Cys | s Cys | s Leu 10 | | : His | s Lev | ı Lev | 1 Ala | a Ser |

| | 1 | * | 1 ~ | Leu | | * .011 | Lau | シャゥ | cio | T ===1 1 | Ser | 315 | Жаса | Leu | Maa | Va l |
|----|-----------|-----------|-------------|--------------|--------------|---------------|--------------|------------------------|---------------|-----------|-----------|--------------|--------------|--------------|-------------|-----------|
| | vai | Leu | Leu | 20 | r.ea | ne.a | Tieser | rts | 25 | 27 | J | | | 30 | | |
| 5 | Leu | Leu | Gln 35 | Ala | Ala | Glu | Ala | Ala 40 | Pro | Gly- | Xaa | Gly | Pro 45 | Pro | Asp | Pro |
| | Arg | Pro 50 | üly | His | Tyr | Arg | Arg 55 | Cys | His | Arg | Ala | Leu 60 | Thr | Pro | Ala | Gln |
| 10 | Gln 65 | Pro | Gly | Arg | Sly | Leu 70 | Ala | Glu | Ala | Ala | Gly 75 | ALa | Ala | Gly | Leu | Arg 80 |
| 15 | Gly | Ar ş | Gln | Trp | Gln 85 | Gln | Pro | Cys | Sly | Arq 90 | Ala | Xaa | | | | |
| | (2) | HF | CEMA | TIOH | F∈R | SEQ | ID! | NO: 4 | 1 57 : | | | | | | | |
| 20 | | | (1) | (| A) L B) T | ENGT YPE : | H: 2 ami | ERIS :06 a :no a | mino cid | | ds | | | | | |
| 25 | | | | CEC | UENC | E EE | SCRI | PTIO | N: S | | | | | | | |
| | Ile 1 | Ser | - Val | Leu | Жаа 5 | Tyr | Pro | His | Cys | Val 10 | Val | His | Glu | Leu | Pro 15 | Glu |
| 30 | Leu | Thr | Ala | Glu 20 | | Leu | Glu | Ala | Gly 25 | Asp | Ser | Asn | Gln | Phe 30 | Cys | Trp |
| | Arg | Asr | 1 Det 30 | | Jer | Cys | ile | Asn 40 | Leu | Leu | Arg | lle | Leu 45 | Asn | Lys | Leu |
| 35 | Thr | Lys 50 | | Lys | His | Ger | Arg 55 | | Met | Met | Leu | Val 60 | | Phe | Lys | Ser |
| 40 | Ala 65 | | e ile | t Let | . Dys | Arg 70 | | ı Leu | . Lys | Val | Lys 75 | | Ala | . Met | Met | Gln 80 |
| 40 | Leu | רער | s Va. | l Lev | i Lyc | | Let | ı Lys | Val | Gln 90 | | Lys | Tyr | Leu | . Gly 95 | Arq |
| 45 | Gln | . Tr | o At | i Ly. 101 | | : Aur | n Mert | Ly | : Thu 105 | | : Ser | ala | i Ila | - Tyr 118 | | . Dys |
| | Val | . Ar | g Hi. 11 | | j Les | ı Asr | n Asi | 2 Asp 120 | | Ala | ı Tyr | : Gly | 7 Apr 135 | n Asp | - Leu | і Азр |
| 50 | Ala | Ar 13 | | e Tr | o Asp | o Phe | e Gli 135 | | a Glu | ı Slv | ı Cys | 3 Ala 140 | | ı Arq | , Ala | . Asn |
| | ÷ *. | | | * 11*. | • . | | . •• | y 58 | e mys | A my | 5 A. | ; 5.3 | , 17. | ٠., | | 5.44 |
| 60 | V.a. | l ar | p. I÷ | n in | | i An | p Ih | e jl: | n Med | | n Dyn | r Aq | p I e | . T:; | | : 41m |

| | Arg (| | Jal 1 195 | Phe : | Ser. | Lys : | | lle : 200 | Ser ' | Trp (| Glu (| | Leu . 205 | Leu | | | | |
|----|------------|------------|--------------|------------|-------------------------|------------------------|-----------------------|---------------|--------------------|------------|------------|------------|--------------|------------|------------|--------------|----|---|
| 5 | | | | | | | | | | | | | | | | | | |
| | (2) | INFO | RMAT | ION: | FOR | SEQ | ID N | 0: 4 | 58: | | | | | | | | | |
| 10 | | | | (| A) LE B) TY O) TO | ENGTH (PE: (POLC | H: 31 amir DGY: | no ac line | nino :id ear | acid | | 458 | ß: | | | | | |
| 15 | Met 1 | Ala | Pro | Pro | Ala 5 | Pro | Gly | Pro | Ala | Ser 10 | Gly | Gly | Ser | Gly | Glu 15 | Val | | |
| 20 | Asp (| Glu | Leu | Phe 20 | Asp | Val | Lys | Asn | Ala 25 | Phe | Tyr | Ile | Gly | Ser 30 | Tyr | Gln | | |
| 20 | Gln | Cys | lle 35 | Asn | Glu | Ala | Xaa | Xaa 40 | Val | Lys | Leu | Ser | Ser 45 | Pro | Glu | Arg | | |
| 25 | Asp | Val 50 | Glu | Arg | Asp | Val | Phe 55 | Leu | Tyr | Arg | Ala | Tyr 60 | Leu | Ala | Gln | Arg | | |
| | Lys 65 | Phe | Gly | Val | Val | Leu 70 | Asp | Glu | Ile | Lys | Pro 75 | Ser | Ser | Ala | Pro | Glu 80 | | |
| 30 | Leu | Gln | Ala | Val | Arg 85 | Met | Phe | Ala | Asp | Tyr 90 | Leu | Ala | His | Glu | Ser 95 | Arg | | |
| 35 | Arg | Asp | Ser | 11e 100 | Val | Ala | Glu | Leu | Asp 105 | Arg | Glu | Met | Ser | Arg 110 | Ser | Xaa | | |
| | Asp | Val | Thr 115 | Asn | Thr | T'hr | Phe | Leu 120 | Leu | Met | Ala | Ala | Ser 125 | Ile | Tyr | Leu | | |
| 40 | His | Asp 130 | Gln | Asn | Pro | Asp | Ala 135 | Ala | Leu | Arg | Ala | Leu 140 | His | Gln | Gly | Asp | | |
| | Ser 145 | Leu | Glu | Cys | Thr | Ala 150 | | Thr | Val | Gln | Ile 155 | | Leu | Lys | Leu | Asp 160 | | |
| 45 | Arg | Leu | Asp | Leu | Ala 165 | | Lys | Glu | Leu | Lys 170 | | Met | Gln | . Asp | Leu 175 | Asp | | |
| 50 | Glu | Asp | Ala | Thr 130 | | Thr | Gln | Leu | Ala 185 | | Ala | Trp | Val | Ser 190 | | Ala | | |
| 50 | Thr | Gly | Gly 195 | | Lys | : Leu | ı Glm | 200 | | . Tyr | Тут | 11 | Phe 205 | | . Glu | Met | | |
| 55 | Ala | Asp 210 | | Cys | Ser | Pro | 215 | | . Lev | ı Leu | . Leu | Asr 220 | | / Glr | n Ala | a Ala | | |
| | Cys 225 | | Met | Ala | a Glr | 1 Gly 230 | | J Trp | Glu | ı Ala | Ala 235 | | ı Gly | / Lev | ı Lev | 1 Gln 240 | ٠. | - |
| 60 | Glu | Ala | Let | ı Asr | o Lvs | s Asr | o Sei | c Glv | 7 Tv2 | r Pro | Glu | ı Thi | r Let | ı Val | L Ası | ı Leu | | |

| | | | 2 | 245 | | | | | 250 | | | | : | 55 | |
|-----|----------------|---------------|----------------------|-----------------------|------------------------|---------------------|----------------------|--------------------|-----------|------------|--------------|---------------------------------|--------------|-----------|-----------|
| - | Ile Val | | Ser (| Jln i | His | Leu | | Lys 265 | Pro : | Pro : | Glu ' | Vil S | Thr 2 270 | ∖an 2 | €E J |
| 5 | Tyr Leu | Ser (275 | Gln I | leu l | Lys | | Ala 280 | His | Arg | Ser | | Pro 185 | Phe : | lle: | Lys |
| 10 | Glu Tyr 290 | Gln 2 | Ala : | Lys (| Glu | Asn 295 | Asp | Phe . | Asp | Arg | Leu 300 | Val : | Leu (| Gln ' | Tyr |
| | Ala Pro 305 | Ser . | Ala · | | Ala 310 | Gly | Pro | Glu | Léu | Ser 315 | Gly | Pro | | | |
| 15 | | | | | | | | | | | | | | | |
| | (2) INFO | ORMAT | ION | FOR | SEQ | 1 di | IO: 4 | 159: | | | | | | | |
| 20 | | (1) S (xi) | (3 (1 (1 | A) L1 B) T O) T | ENGT: YPE : OPOL | H: 2 ami OGY: | 61 ai no a lin | mino cid ear | aci | | : 459 | 9 : | | | |
| 25 | Arg Asp 1 | Val | Glu | Arg 5 | Asp | Val | Phe | Leu | Туr 10 | Arg | Ala | Tyr | Leu | Ala 15 | Gln |
| 20 | Arg Lys | : Phe | Gly 20 | Val | Val | Leu | Asp | Glu 25 | Ile | Lys | Pro | Ser | Ser 30 | Ala | Pro |
| 30 | Glu Leu | Gln 35 | Ala | Val | Arg | Met | Phe 40 | Ala | Asp | Tyr | Leu | Ala 45 | His | Glu | Ser |
| 35 | Arg Arg 50 | | Ser | Ile | Val | Ala 55 | | Leu | Asp | Arg | Glu 60 | M⊢t | Ser | Arg | Ser |
| | Xaa Asp 65 | o Val | Thr | Asn | Thr 70 | | Phe | Leu | Leu | Met 75 | | λla | Ser | Ile | тут 08 |
| 40 | Leu Hi: | s Asp | Gln | Asn 85 | | Asr | Ala | . Ala | Leu 90 | | Ala | Leu | His | Gln 95 | Gly |
| 45 | Asp Sei | r Leu | 31u 100 | | : Thi | Ala | | Thr 105 | | . Glr | . Ile | - Leu | Leu 113 | Lys | Leu |
| 4.) | Asp Ar | g Leu 115 | | Leti | ı Als | ı Arş | 120 | | i Len | i Lys | : Ar : | 125 | Glo | . Aug | o Lessi |
| 50 | Asp Gl | | Ala | Thr | r Let | : Th: | | ı Lev | ı Ala | a Thi | a Ala 140 | ı Trp | v Val | Ser | Leu |
| | Ala Th | r Gly | /Gly | / Gli | ı Ly: | s Let | u Gh | n Arq |) Ala | а Тул | e Tyn | r Ile | · Pha | e Glr | n Glu |
| 60 | Als N | n Hil | 3 - Merel 1 - 4 (| | 1 - FI | 1. 1. | , Ai | 1 111 | 1 | i Al | r Al | $\mathfrak{c} \to \mathfrak{T}$ | 1 1 1 | , 1 · | . :- |

| | Gln | Glu | Ala 195 | Leu | Asp | Lys | Asp | Ser 200 | Gly | Tyr | Pro | Glu | Thr 205 | Leu | Val | Asn |
|----|------------|------------|--------------|------------|------------------------------|----------------------|---------------------|---------------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Leu | Ile 210 | Val | Leu | Ser | Gln | His 215 | Leu | Gly | Lys | Pro | Pro 220 | Glu | Val | Thr | Asn |
| | Arg 225 | Tyr | Leu | Ser | Gln | Leu 230 | Lys | Asp | Ala | His | Arg 235 | Ser | His | Pro | Phe | Ile 240 |
| 10 | Lys | Glu | Тут | Gln | Ala 2 4 5 | Lys | Glu | Asn | Asp | Phe 250 | Asp | Arg | Leu | Val | Leu 255 | Gln |
| 15 | Tyr | Ala | Pro | Ser 260 | Ala | | | | | | | | | | | |
| | (2) | INF | ORMA | rion | FOR | SEQ | ID I | VO: 4 | 160: | | | | | | | |
| 20 | | | | · (| ENCE A) L B) T D) T | ENGT YPE: OPOL | H: 1 ami OGY: | 55 a no a lin | mino cid ear | aci | | | | | | |
| 25 | | | | - | UF.NC. | | | | | _ | | | | *** | *** | T1 - |
| | Met. 1 | Lys | Ala | He | Gly 5 | Ile | Glu | Pro | Ser | Leu 10 | Ala | Thr | Tyr | HIS | H1S | He |
| 30 | Ile | Arg | Leu | Phe 20 | Asp | Gln | Pro | Gly | Asp 25 | Pro | Leu | Lys | Arg | Ser 30 | Ser | Phe |
| | Ile | Ile | Tyr 35 | | Ile | Met | Asn | Glu 40 | Leu | Met | Gly | Lys | Arg 45 | Phe | Ser | Pro |
| 35 | Lys | Asp 50 | | Asp | Asp | Asp | Lys 55 | | Phe | Gln | Ser | Ala 60 | Met | Ser | Ile | Cys |
| 40 | Ser 65 | Ser | Leu | Arg | Asp | Leu 70 | Glu | Leu | Ala | Tyr | Gln 75 | Val | His | Gly | Leu | Leu 80 |
| | Lys | Thr | Gly | Asp | Asn 85 | | Lys | Phe | Ile | Gly 90 | Pro | Asp | Gln | His | Arg 95 | Asn |
| 45 | Phe | Tyr | Tyr | Ser 100 | | Phe | Phe | Asp | Leu 105 | | Cys | Leu | Met | Glu 110 | | Ile |
| | Asp | Val | Thr 115 | | Lys | Trp | Tyr | Glu 120 | | Leu | Ile | Pro | Ser 125 | | Tyr | Phe |
| 50 | Pro | His | | Gln | Thr | Met | Ile 135 | | Leu | Leu | Gln | Ala 140 | | Asp | Val | Ala |
| 55 | Asn 145 | | Leu | Glu | . Val | Ile 150 | | Lys | Ile | Trp | Glu 155 | | | | | |
| | (2) | INF | ORMA | TION | FOR | SEQ | ID | : O ⁄ | 461: | | | | | | | |
| 60 | | | (<u>i</u>) | SEQU | JENCE | E CHA | ARACI | ERIS | TICS | S : | | | | | | |

 $(-1) \sum_{i=1}^{n} (-1)^{i} \left(\frac{\partial}{\partial x_i} - \frac{\partial}{\partial x_i} \right) = (-1)^{i} \left(\frac{\partial}{\partial x_i} - \frac{\partial}{\partial x_i} \right) = (-1)^{i} \left(\frac{\partial}{\partial x_i} - \frac{\partial}{\partial x_i} \right) = (-1)^{i} \left(\frac{\partial}{\partial x_i} - \frac{\partial}{\partial x_i} - \frac{\partial}{\partial x_i} \right) = (-1)^{i} \left(\frac{\partial}{\partial x_i} - \frac{\partial}{\partial x_i} \right)$

| | | | | | | | amı | | | | | | | | | |
|-----|-----------|------------|-----------|------------|------------|--------------|---------------|-------------|--------------|-----------|-----------|------------|------------|------------|--------------|-----------|
| | | | (xi) | | | | OGV: SCRII | | | EÇ II | CM C | : 461 | l: | | | |
| 5 | Lys 1 | Asp | Ser | Lys | Glu 5 | Tyr | Gly | His | Thr | Phe 10 | Arg | Ser | Asp | Leu | Arg 15 | Glu |
| 10 | Glu | Ile | Leu | Met 20 | Leu | Met | Ala | Arg | Asp 25 | Lys | His | Pro | Pro | Glu 30 | Leu | Gln |
| | Val | Ala | Phe 35 | Ala | Asp | Cys | Ala | Ala 40 | Asp | Ile | Lys | Ser | Ala 45 | Тут | Glu | Ser |
| 15 | Gln | Pro 50 | Ile | Arq | Gln | Thr | Ala 55 | Gln | Asp | Trp | Pro | Ala 60 | Thr | ser | Leu | Asn |
| 20 | Cys 65 | Ile | Ala | Ile | Leu | Phe 70 | Leu | Arg | Ala | Gly | Arg 75 | Thr | Gln | Glu | Ala | Trp 80 |
| 20 | Lys | Met | Leu | Gly | Leu 85 | Ph.e | Arg | Lys | His | Asn 90 | Lys | Ile | Pro | Arg | Ser 95 | |
| 25 | Leu | Leu | Asn | Glu 100 | Leu | Met | Asp | Ser | Ala 105 | | Val | Ser | Asn | Ser 110 | Pro | Ser |
| | Gln | Ala | 11e | Glu | Val | Val | Glu | Leu 120 | | Ser | Ala | Phe | Ser 125 | | Pro | Ile |
| 30 | Cys | Glu 130 | Gly | Leu | Thr | Gln | Arg 135 | | Met | Ser | Asp | Phe 140 | | He | Asn | Gln |
| 35 | 145 | | Lys | | | 150 | | | | | 155 | | | | | 160 |
| | Asp | Thr | asp: | Ser | Ser 165 | | Asp | Ser | . Yab | 170 | | Thr | Ser | Glu | . Gly 175 | |
| 4() | | | | | | | | | | | | | | | | |
| 45 | (2) | INE | FORMA | JEÇ. | JET KO | e chu | | PERI | PTIJ | 3: | ids | | | | | |
| 50 | | | (xi | | (B) | TYPE TOPO | : am LOGY | ino : li | asid near | | | O: 40 | 62: | | | |
| | Mest | t Ser | r Ser | r Asq | o Asi | ı Gli | a S⊖i | r Asj | o Ile | e Gla | u Asj | p Glu | u Asp | o Iwa | i Ly: | s Le |
| | -1: | i. ce | i Ai | 1 (12) | n 1,5 | 1.1. | | | nt tu | j. (4+ | r Is | · 1. | : .7. | . 15 | | : 31 |
| 60 | | | , 1 | -, | | | | -; | | | | | 4 | | | |

(A) LENCTH: 176 amino acids

| | Lys | Val 50 | Pro | Pro | Ala | Val | Ile 55 | Ile | Pro | Pro | Ala | Ala 60 | Pro | Leu | Ser | Gly |
|----|------------|------------|-------------|------------|--------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|------------|------------|--------------|
| 5 | Arg 65 | Arg | Arg | Arg | Pro | Thr 70 | Lys | Ser | Lys | Gly | Ser 75 | Lys | Ser | Ser | Arg | Ser 80 |
| | Ser | Ser | Leu | Gly | Asn 85 | Lys | Ser | Pro | Gln | Leu 90 | Ser | Gly | Asn | Leu | Ser 95 | Gly |
| 10 | Gln | Ser | Ala | Ala 100 | Ser | Val | Leu | His | Pro 105 | Gln | Gln | Thr | Leu | His 110 | Pro | Pro |
| 15 | Gly | Asn | Ile 115 | Pro | Glu | Ser | Gly | Gln 120 | Asn | Gln | Leu | Leu | Gln 125 | Pro | Leu | Lys |
| 13 | Pro | Ser 130 | Pro | Ser | Ser | Asp | Asn 135 | Leu | Tyr | Ser | Ala | Phe 140 | Thr | Ser | Asp | Gly |
| 20 | Ala 145 | Ile | Ser | Val | Pro | Ser 150 | Leu | Ser | Ala | Pro | Gly 155 | Gln | Gly | Thr | Ser | Ser 160 |
| | Thr | Asn | Thr | Val | Gly 165 | Ala | Thr | Val | Asn | Ser 170 | | Ala | Ala | Gln | Ala 175 | Gln |
| 25 | Pro | Pro | Ala | Met 180 | | Ser | Ser | Arg | Lys 185 | | Thr | Phe | Thr | Asp 190 | Asp | Leu |
| 30 | His | Lys | Leu 195 | | Asp | Asn | Trp | Ala 200 | | Asp | Ala | Met | Asn 205 | Leu | Ser | Gly |
| 50 | Arg | Arg 210 | | Ser | Lys | Gly | His 215 | | Asn | Tyr | Glu | . Gly 220 | | Gly | Met | Ala |
| 35 | Arg 225 | | : Phe | Ser | : Ala | Pro 230 | | - Gln | . Leu | Cys | : Ile 235 | | Met | Thr | Ser | Asn 240 |
| | Leu | ı Gly | gly | ' Ser | 7 Ala 245 | | Ile | s Ser | · Ala | Ala 250 | | · Ala | Thr | Ser | Leu 255 | i Gly |
| 40 | His | s Phe | e Thr | Lys 260 | | Met | Суз | Pro | 265 | | n Glr | ı Tyr | : Gly | Phe 270 | |) Ala |
| 45 | Thi | r Pro | 275 | | y Ala | a Glr | ı Tış | | | | c Gly | | / Pro 285 | | Pro | o Gln |
| .5 | Pro | 290 | | / Gli | n Phe | e Glr | 295 | | l Gly | / Thi | r Ala | a Ser 300 | | ı Glr | ı Ası | n Phe |
| 50 | As: | | e Sei | r Ası | n Lei | 310 | | s Sei | r Ile | e Se: | 31! | | Pro | Gly | / Sei | r Asn 320 |
| | Le | u Ar | g Thi | r Th | r | | | | | | | | | | | |
| 55 | | · ~ | 505. | . m = c | | | | NO | 463 | | | | | | | |
| | (2 |) IN | r orm | ATIO | N FO | K SE | OI Ç | NO: | 463 | : | | | | | | |

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 133 amino acids

BNSDOCID <WO _ 9854963A2 | >

| | | | (xi) | (I | T (C | CFOL | CGY: | no a line PTICI | ear | EQ II |) N O: | 46. | 3 : | | | |
|----|-----------|------------|-------------|-----------------------|-----------|-----------------|-----------|--------------------------------|---------------|-----------|---------------|-----------|-------------|-------------|-------------|-----------|
| 5 | ile 1 | Gln | Asp | Leu | Gln 5 | Ser | Arg | Gln | Lys | His 10 | Glu | Ile | Glu | Ser | Leu 15 | Tyr |
| 10 | Thr | Lys | Leu | Gl _Y 20 | Lys | Val | Pro | Pro | Ala 25 | Val | Ile | Ile | Pro | Pro 30 | Ala | Ala |
| 10 | Pro | Leu | Ser 35 | Gly | Arg | Arg | Arg | Arg 40 | Pro | Thr | Lys | Ser | Lys 45 | Gly | S≏r | Lys |
| 15 | Ser | Ser 50 | | Ser | Ser | Ser | Leu 55 | Gly | Asn | Lys | Ser | Pro 60 | Gln | Leu | Ser | Glγ |
| | Asn 65 | Leu | Ser | Gly | Gln | Ser 70 | Ala | Ala | Ser | Val | Leu 75 | His | Pro | Gln | Gln | Thr 80 |
| 20 | Leu | His | Fro | Pro | Gly 85 | | Ile | Pro | Glu | Ser 90 | Gly | Gln | Asn | Gln | Leu 95 | Leu |
| 25 | Gln | Pro | Leu | Lys 100 | Pro | Ser | Pro | Ser | Ser 105 | Asp | Asn | Leu | Tyr | Ser 110 | Ala | Phe |
| 25 | Thr | Ser | Asp 115 | | Ala | Ile | Ser | Val 120 | | Ser | Leu | Ser | Ala 125 | Pro | Gly | Gln |
| 30 | Gly | Thr 130 | Ser | Ser | Thr | | | | | | | | | | | |
| 35 | (2) | III | | SEQU | JENCI | e icha Lengt | ARACI | NO: PERIS 53 ar ino a | STICS mino | 5: | ls | | | | | |
| 40 | | | (xi) | | (D) | TCPOI | LOGY | : lir EPTIC | near | SEQ I | D NC |): 46 | 54: | | | |
| | Thr | | r Asp | Gly | | ı Ile | e Ser | r Val | . Pro | Ser 18 | | . Ser | : Ala | . Pro | 0 Gl; 15 | |
| 45 | Gl | , Thi | r Ser | der gr | | c Apr | ı Thi | c Val | 1 Gly 25 | | . Thr | : Val | l Asr | i 3⊖: 30 | Glr | n Al- |
| 50 | Ala | a Gl: | n Ala 39 | | ı Pr | o Pro | o Ala | a Met 4(| | c Ser | Ser | r Arq | j Lys 45 | | / Thu | r Ph |
| 50 | Th: | r Ası | p As; O | o Lev | ı Hi | S | | | | | | | | | | |

.e rejuenem (hafa jitefilotilot) (a) length: 48 amino eri be

60 (B) TME: amino wid

 $S_{k} = \{ x_{i} \in \mathcal{X}_{k} \mid x_{i} \in \mathcal{X}_{k} \mid x_{i} \in \mathcal{X}_{k} \}$

| | (D) TOPOLOGY: linear (Ri) SEQUENCE DESCRIPTION: SEQ ID NO: 465: |
|----|---|
| | (XI) SEQUENCE ESSENTETION. SEQ IS NO. 105. |
| 5 | Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser 1 5 10 |
| | Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser 20 25 30 |
| 10 | Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys 35 40 45 |
| 15 | |
| | (2) INFORMATION FOR SEQ ID NO: 466: |
| 20 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 25 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 466: |
| 20 | Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe 1 5 10 |
| 30 | Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly 20 25 30 |
| 35 | (2) INFORMATION FOR SEQ ID NO: 467: |
| | (i) SEQUENCE CHAFACTERISTICS: (A) LENGTH: 57 amino acids (B) TYPE: amino acid |
| 40 | (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 467: |
| | Val Arg Val Ala Ala Ala Glu Ser Met Xaa Leu Leu Leu Glu Cys Ala 1 5 10 15 |
| 45 | Xaa Val Arg Gly Pro Glu Tyr Leu Thr Gln Met Trp His Phe Met Cys 20 25 30 |
| 50 | Asp Ala Leu Ile Lys Ala Ile Gly Thr Glu Pro Asp Ser Asp Val Leu 35 40 45 |
| 20 | Ser Glu Ile Met His Ser Phe Ala Lys 50 55 |
| 55 | (2) INFORMATION FOR SEQ ID NO: 468: |
| | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 85 amino acids |
| 60 | (R) TYPE: amino acid |

| | | | (xi) | | D) T | | | | | EÇ II | D 110 | : 46 | 8: | | | |
|----------|-----------|------------|-----------|-------------|---|-----------------------|-------------------------------|---------------------------------|------------------------------|-----------|-------------|---------------|-------------|------------|-------------|------------|
| 5 | Met 1 | Glu | Ile | Asn | Asn 5 | Gln | Asn | Cys | Phe | Ile 10 | Val | Ile | Asp | Len | Val 15 | Arg |
| | Thr | Val | Met | Glu 20 | Asn | Gly | Val | Glu | Gly 25 | Leu | Leu | Ile | Phe | Gly 30 | Ala | Phe |
| 10 | Leu | Pro | Glu 35 | Ser | Trp | Leu | Tle | Gly 40 | Val | Arg | Çys | Ser | Ser 45 | Glu | Pro | Pro |
| 15 | Lys | Ala 50 | Leu | Leu | Leu | Ile | Leu 55 | Ala | His | Ser | Gln | Lys 60 | Arg | Arq | Leu | Asp |
| 1.7 | Gly 65 | | Ser | Phe | Ile | Arg 70 | His | Leu | Arg | Val | His 75 | Tyr | Cys | Val | Ser | L≓u 80 |
| 20 | Thr | Ile | His | Phe | Ser 85 | | | | | | | | | | | |
| 25 30 | (2) | INF | (i) | SEQU | ENCE (A) I (B) I (D) I | CHA ENGI YPE: | RACT TH: 2 ami JOGY: | ERIS 20 am 20 no a 1ir | TICS nino ncid near | ació | is D NC | o: 46 | 39 : | | | |
| | Gln 1 | | Lys | His | Ala 5 | | Glu | Val | Arg | Lys 10 | . Asn | Lys | Glu | ı Leu | . Lys 15 | |
| 35 | Glu | ı Ala | . Ser | Arg 20 | | | | | | | | | | | | |
| 40 | (2) | INF | | | | | | | | | | | | | | |
| 45 | | | | | JENC! (A) ! (B) ' (D) ' JUENC | LENG TYPE TOPO! | LOGY : am | 92 au ino : : li. | mino acid near | aci | ds ID NO |): 4 1 | 70: | | | |
| 50 | | n Glr l | n Asp |) Lev | ı Ser | | o Trp | Ala | a Ala | Pro | | . Gly | y Cys | s Pr | , Les 1º | i Kaa 5 |
| 50 | Хаа | a Ala | ı Sen | r Ka: 2: | | c Cys | s His | 3 Xae | Leu 25 | | o Lev | ı Sei | r Gly | 3 (3 (| | ı Arg |

 60° - Gyp Pro Phy Pro Jer Leu from Phys Gin App Lyb His Al (3h) Gid Vel

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| | 55 | | | | | 70 | | | | | 75 | | | | | 80 | | |
|----|-----------|-------------------|-------------|-------------|-------------------------|------------------------|-----------------------|------------------------|--------------------|-------------|-----------|------------|------------|-----------|-----------|-----------|---|---|
| - | Arg I | uya P | ksn 1 | ya (| 31u 3 35 | leu I | lys (| Glu (| Glu A | Ala : 90 | Ser A | Arg | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| | 2) 1 | <u> </u> | 1141 | :::: : | FOR : | SEQ : | ID NO | ⊃: 4 | 71: | | | | | | | | | |
| 10 | | | 1, s: | /A (B | .) LE 1) TY 2) TO | NGTH PE: POLO | ı 37 amin XGY: | ami c ac line | no a id ar | cids | | 471 | | | | | | |
| 15 | | | ĸĹ, . | - | | | | | | | | | | | | | | |
| | I I | Inr i | Arg (| ĵ∵s | Cys 5 | Thr ' | Thr : | Gln | Pro | Cys 10 | Arg | Ser . | Ser . | Ala | Arg 15 | yrg | | |
| 20 | Pro ' | Cys ' | Emp ' | 721 20 | Pro : | Met ' | Val | Pro | Ser 25 | Pro | Glu | Gly . | Arg | Glu 30 | Kaa | Gln | | |
| | Pro | Thr | 0ys : 35 | Pro | Ser | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | |
| | 12) | 250 | PMALT | <u> </u> | FOR | SEQ | ID N | ic: 4 | 72: | | | | | | | | | |
| 30 | | | i) s xi. | (3 (3 | k) L3 B) T D) T | DIGT! (PE: CPOLA | i: 36 amir DGY: | 53 ar no ac line | mino cid ear | aci | | : 472 | 2 : | | | | | |
| 35 | Met 1 | Lys | Æg | Ser | Leu 5 | Asn | Glu | Asn | Ser | Ala 10 | Arg | Ser | Thr | Ala | Gly 15 | Cys | | |
| 10 | leu | Prot | | Pro 20 | leu | Phe | Asn | Gln | Lys 25 | Lys | Arg | Asn | Arg | Gln 30 | Pro | Leu | | |
| 40 | Thr | Ser | Asn 35 | <u>P</u> ±0 | Leu | Lys | qzA | Asp 40 | Ser | Gly | Ile | Ser | Thr 45 | Pro | Ser | Asp | | |
| 45 | Asn | Ty ∵ 50 | Asp | Phe | 220 | Pro | Leu 55 | Pro | Thr | Asp | Trp | Ala 60 | Trp | Glu | Ala | Val | | |
| | Asn 65 | Pro | Glu | Хаа | Ala | 2ro 70 | Val | Met | Lys | Thr | Val 75 | Asp | Thr | Gly | Gln | Ile 80 | | |
| 50 | Pro | His | Ser | Val | Ser 85 | Arg | Pro | Leu | Arg | Ser 90 | Gln | Asp | Ser | Val | Phe 95 | | | |
| | Ser | Ile | Gln | Ser 100 | Asn | Thr | Gly | Arg | Ser 105 | | Gly | Gly | Trp | Ser | | Arg | | |
| 55 | şzp | Эlу | Asn 115 | Lys | Asn | Thr | Ser | Leu 120 | | Thr | Trp | Xaa | Lys 125 | Asn | . Asp | Phe | - | - |
| 60 | Lyš | Pro 131 | | C-/s | Lys | Arg | Thr | | Leu | . Val | Ala | Asn 140 | | Gly | · Lys | : Asn | | |

| | s⇔r 145 | Cys | Pro | Met | Ser | Ser 150 | Gly | Ala | Gln | Gln | Gln 155 | Lys | Gln | Leu | Arg | Thr 160 |
|----|------------|------------|--------------|--------------|------------|------------|------------|--------------|---------------------|--------------|------------|------------|------------|--------------|------------|------------|
| 5 | Pro | Glu | Pro | Pro | Asn 165 | Leu | Ser | Arg | Asn | Lys 170 | Glu | Thr | Glu | Leu | Leu 175 | Arg |
| 10 | Gln | Thr | His | Ser 180 | Ser | Lys | He | Ser | Gly 185 | Cys | Thr | Met | Arg | Gly 190 | Leu | Asp |
| | L)'s | Asn | Ser 195 | Ala | Leu | Gln | Thr | Leu 200 | Lys | Pro | Asn | Phe | Gln 205 | Gln | Asn | Gln |
| 15 | Tyr | Lys 210 | Хаа | Gln | Met | Leu | Asp 215 | Asp | Ile | Pro | Glu | Asp 220 | Asn | Thr | Leu | Lys |
| | Glu 225 | Thr | Ser | Leu | Tyr | Gln 230 | Leu | Gln | Phe | Lys | Glu 235 | | Ala | Ser | Ser | Leu 240 |
| 20 | Arg | 11. | He | Ser | Ala 245 | Val | Ile | Glu | Ser | Met 250 | | Tyr | Trp | Arg | Glu 255 | |
| 25 | Ala | Gln | Lys | Thr 260 | | Leu | Leu | Phe | Glu 265 | | Leu | Ala | . Val | Leu 270 | Asp | Ser |
| | Λla | Val | Thr 275 | | Gly | Pro | Тут | Tyr 280 | | Lys | Thr | Ph∈ | Leu 285 | | Arg | Asp |
| 30 | Gly | Lys 290 | | Thr | Leu | Pro | Cys 295 | | Phe | Tyr | Glu | 11∈ 300 | Asp | Arg | Glu | . Leu |
| | Pro 305 | | , Let | ıIle | : Arg | Gly 310 | | val | . His | Arg | 315 | | . Gly | Asn | Tyr | 320 |
| 35 | Glr | ı Lys | : Ly: | s Asr | 11e 325 | | : Glr | ı Cys | val | . Ser 330 | | l Arç | Pro | Ala | Ser 33° | r Val |
| 40 | Ser | Gh. | ı Glr | 1 Lys 340 | | · Phe | e Glr | n Alā | 349 | | l Lys | s Ile | ∌ Ala | а Аяр 35(| | l Glu |
| | Met | : Glr | а Туг 35' | с Ту: 5 | : Ile | a Asr | ı Val | 1 Met 360 | | n Gli | ı Thi | r | | | | |
| 45 | (2 |) IN | FORM | ATICI | i FOI | R SE, | Q ID | ::01 | 473 | : | | | | | | |
| | | | (i) | SEQ | (A) | LENG | TH: | 45 a | mino | aci | .ds | | | | | |
| 50 | | | (xi |) SE | (E) | TOPO | LOGN | : li | acid near CN: | | ID 1 | io: 4 | 73: | | | |
| | | | | | | | | | | | | | | | | |

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| 5 | (2) INFORMATION FOR SEQ ID NO: 474: |
|----|---|
| 10 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 36 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 474: |
| | Asn Lys Glu Thr Glu Leu Arg Gln Thr His Ser Ser Lys Ile Ser 1 5 10 15 |
| 15 | Gly Cys Thr Met Arg Gly Leu Asp Lys Asn Ser Ala Leu Gln Thr Leu 20 25 30 |
| 20 | Lys Pro Asn Phe 35 |
| 25 | (2) INFORMATION FOR SEQ ID NO: 475: |
| 30 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 49 amino acids (B) TYPE: amino acid (D) TOPILOGY: linear (xi) SEQUENCE DESCRIFTION: SEQ ID NO: 475: |
| | |
| | Ser Ser Leu Arg Ile Ile Ser Ala Val Ile Glu Ser Met Lys Tyr Trp 1 5 10 15 |
| 35 | Arg Glu His Ala Gln Lys Thr Val Leu Leu Phe Glu Val Leu Ala Val 20 25 30 |
| 40 | Leu Asp Ser Ala Val Thr Pro Gly Pro Tyr Tyr Ser Lys Thr Phe Leu 35 40 45 |
| | Met |
| 45 | (2) INFORMATION FOR SEQ ID NO: 476: |
| 50 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 42 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 476: |
| 55 | Pro Arg Leu Ile Arg Gly Arg Val His Arg Cys Val Gly Asn Tyr Asp 1 5 10 15 |
| | Gln Lys Lys Asn Ile Phe Gln Cys Val Ser Val Arg Pro Ala Ser Val |
| 60 | Ser Glu Gln Lys Thr Phe Gln Ala Phe Val |

| 35 | 40 |
|----|----|
| | |

| 5 | (2) | INFO | PMAT | ION ! | FOR | SEQ | ID N | 0:4 | 77 : | | | | | | | |
|-----|------------|------------|---------------|------------|--------------------------|-------------------------|-----------------------|-----------------------|-----------------|-----------|------------|------------|------------|------------|------------|-----------|
| 10 | | | (i) S (xi) | A) B) | () LE () T'(() T(| ENGTH (PE :)POL(| I: 37 amir XGY: | 0 am no ac line | ino id ar | acio | | 477 | `: | | | |
| | Gly 1 | V.11 | Phe | Arg | Pro 5 | Cys | Val | Cys | Gly | Arg 10 | pro | Ala | Ser | Leu | Thr 15 | Cys |
| 15 | Ser | Pro | Leu | Acp 20 | Pro | Glu | Val | 61γ | Pro 25 | Tyr | Сув | Asp | Thr | Pro 30 | Thr | Mert. |
| 20 | Arg | Thr | Leu 35 | Pho | Ann | T.ēn | I.en | ™rp 40 | T.en | Ala | Leu | Ala | Cys 45 | Sar | Pro | Val |
| | His | Thr 50 | Thr | Leu | Ser | Lys | Ser 55 | qsA | Ala | Lys | Lys | Ala 60 | Ala | Ser | Lys | Thr |
| 25 | Leu 65 | Leu | Glu | Lys | Ser | Gln 70 | Phe | Ser | Asp | Lys | Pro 75 | Val | Gln | Asp | Arg | 80 Gly |
| 20 | Leu | Val | Val | Thr | Asp 85 | Leu | Lys | Ala | Glu | Ser 90 | Val | Val | Leu | Glu | His 95 | Arg |
| 30 | Ser | Tyr | Oys | Ser 100 | Ala | Lys | Ala | Arg | Asp 105 | Arg | His | Phe | Ala | Gly 110 | Asp | Val |
| 35 | Leu | Gly | Tyr 115 | Val | Thr | Pro | Trp | Asn 120 | Ser | His | Gly | Tyr | Asp 125 | Val | Thr | Lys |
| | Val | Phe 130 | e Gly | Ser | Lys | Phe | Thr 135 | | He | Ser | Pro | Val 140 | Trp | Leu | Gln | Let |
| 40 | Lys 145 | | j Arg | Gly | Arg | Glu 150 | | Phe | Glu | Val | Thr 155 | | Leu | His | Asp | Val |
| 45 | Anp | o Glr | n Gly | Tip | Met 169 | | Ala | Val | Arg | 170 | | Ala | bys | Gly | 175 | Hi |
| 4.1 | Tle | e Vai | l Pr | Arg 180 | | i I.≓u | r Phe | : Glu | Алф 185 | | מלנה י | Tyr | Asp | Asp 190 | r Ph⊷) | Ar: |
| 50 | Asr | n Val | l Leu 195 | | Ser | Glu | ı Asp | Glu 200 | | gl: | ı Glu | i Let | Ser 205 | Lys i | s Thr | · Va |
| | Val | 1 Gl: | n Vel | Ala | a Lys | a Asr | n Glr Olf | | : Ph- | e Aup | o Sly | / Phe | ⊳ Val | L Val | l Gh | i Va |
| | | | | | | | | | | | | | | | | |

Than His (1901 A.) a sum A.C. (1901 H.) holling Alia A. dollen, 1901 A. a (1901 h.) LAN (256)

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 $S_{\alpha} = \{ e_{\alpha} \in \mathcal{A}_{\alpha} \mid \alpha \in \mathbb{R} \mid \alpha \in \Delta \}$

| | Val | He | Pro | 260 | Ala | шe | Thr | Pro | 265 | Thr | ASP | GIN | Leu | 270 | nec | rne |
|------------|------------|------------|------------|--------------|-------------------------|--------------------------|---------------------|-------------------------|----------------------|------------|------------|---------------|------------|-------------|------------|------------|
| 5 | Thr | His | Lys 275 | Glu | Phe | Glu | Gln | Leu 280 | Ala | Pro | Val | Leu | Asp 285 | Gly | Phe | Ser |
| | Leu | Met 290 | Thr | Tyr | Asp | Tyr | Ser 295 | Thr | Ala | His | Gln | Pro 300 | Gly | Pro | Asn | Ala |
| 10 | Pro 305 | Leu | Ser | Trp | Val | Arg 310 | Ala | Cys | Val | Gln | Val 315 | Leu | Asp | Pro | Lys | Xaa 320 |
| 15 | Lys | Trp | Arg | Thr | Lys 325 | Ser | Ser | Trp | Gly | Ser 330 | Thr | Ser | Met | Kaa | Trp 335 | Thr |
| 13 | Xaa | Arg | Xaa | Pro 340 | Xaa | Asp | Ala | Arg | Xaa 345 | | Val | Val | Gly | Xaa 350 | Arg | Xaa |
| 20 | Ile | Gln | Xaa 355 | Leu | Lys | Asp | His | Xaa 360 | | Arg | Met | Val | Leu 365 | | Ser | Lys |
| | Pro | Gln 370 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | |
| | (2) | INF | | TION SEQU | | | | | | | | | | | | |
| 30 | | | | | (A) I (B) T (D) T | LENGT TYPE : TOPOI | TH: 3 : ami | 39 an .no a : lir | mino acid near | acio | |): 4 7 | 8: | | | |
| 35 | Thr 1 | - | Ser | Pro | Leu 5 | - | Prc | Glu | . Val | Gly 10 | | Tyr | Суз | Asp | Thr 15 | Pro |
| 40 | Thr | Met | Arg | Thr 20 | | Phe | e Asn | Leu | Leu 25 | | Leu | . Ala | Leu | Ala 30 | | Ser |
| | Pro | Val | His | Thr | Thr | Leu | . Ser | | | | | | | | | |
| 45 | (2) | INF | ORMA | MOITA | I FOF | R SEÇ |) ID | NO: | 479: | | | | | | | |
| 50 | | | | | (A) : (B) ' (D) ' | LENG TYPE TOPO | TH: : am LOGY | 54 ai ino : : li: | mino acid near | aci | | o · 45 | 79· | | | |
| 55 | Leu 1 | | | | . Asp | | | | | | r Val | | | ı Glu | ı His | : Arg |
| - - | | | c Cys | s Ser 20 | c Ala | | s Alá | a Arg | д Азр 25 | o Arg | | s Phe | ≥ Ala | a Gly 30 | / Asp | Val |
| 60 | Leu | ı Gly | ү Туп | r Val | l Thi | r Pro | o Tr | o Ası | n Sei | c His | s Gly | y Tyi | . Ası | o Val | l Thr | Lys |

| | 35 | | 40 | | 45 | |
|----|-------------------|---------------------|---|-------------------------|-------------------|-------------------|
| 5 | Val Phe Gly 50 | Ser Lys Phe | | | | |
| | (2) INFORMAT | TION FOR SEQ | ID NO: 48 | 30 : | | |
| 0 | (i) 3 | (B) TYPE: | RACTERIST: H: 52 ami: amino ac OGY: line | no acids id | | |
| 5 | | SEQUENCE DE | | | | |
| | Arg Glu Met 1 | Phe Glu Val 5 | Thr Gly I | Leu His As 10 | op Val Asp | Gln Gly Trp 15 |
| 20 | Met Arg Ala | Val Arg Lys 20 | His Ala I | Lys Gly Le 25 | eu His Ile | Val Pro Arq 30 |
| | Leu Leu Phe 35 | Glu Asp Trp | Thr Tyr 40 | Asp Asp Pl | he Arg Asn 45 | Val Leu Acp |
| 25 | Ser Glu Asp 50 | Glu | | | | |
| 30 | (2) INFORMA | TION FOR SEQ | ID NO: 4 | 81: | | |
| 35 | | (B) TYPE | TH: 56 ami : amino ad LOGY: line | ino acids cid ear | NO: 481: | |
| 40 | His Phe Asp 1 | o Gly Phe Val 5 | Val Glu | Val Trp A | sn Gln Leu | Leu Ser Gln 15 |
| +0 | Lys Arg Val | l Gly Leu Ile 20 | e His Met | Leu Thr H | His Leu Ala | Glu Ala Leu 30 |
| 45 | His Gln Al: | a Arg Leu Leo S | i Ala Leu 40 | Leu Val I | lle Pro Pro 45 | Ala Il· Thr |
| | Pro Gly Th 50 | r Asp Glu Leu | a Gly Met 55 | | | |
| 50 | (2) INFORM | ATION FOR SE | Q ID NO: · | 482: | | |
| | | | | | | |

 60° . Appliedly the Cea Deu Met Thr Tyr Asp Tyr Cer Thr Ala His ein Erec

Section 2. The second

on the state of th

| | l | | | | 5 | | | | | 10 | | | | | 15 | |
|----|------------|------------|------------|------------|-------------------------|-------------------------|------------------------|-------------------------|-----------------------|-----------|-----------|---------------|------------|------------|-----------|-----------|
| 5 | Gly | Pro | Asn | Ala 20 | Pro | Leu | Ser | Trp | Val 25 | Arg | Ala | Cys | Val | Gln 30 | Val | Leu |
| 5 | Asp | Pro | Lys 35 | Хаа | Lys | Trp | Arg | Thr 40 | Lys | Ser | Ser | Trp | Gly 45 | Ser | Thr | |
| 0 | (2) | 111FC |)RMAT | rion | FOR | SEÇ | ID 1 | NO: 4 | 183: | | | | | | | |
| 15 | | | | (| A) L: B) T D) T | ENGT: YPE: OPOL | H: 1 ami OGY: | 52 a no a lin | mino cid ear | aci | | : 48 | 3: | | | |
| 20 | Glu l | Arg | Gly | Val | Sar 5 | Ile | Asn | Gln | Phe | Cys 10 | Lys | Glu | Phe | Asn | Glu 15 | Arg |
| | Thr | Lys | Asp | 11e 20 | Lys | Glu | Gly | Ile | Pro 25 | Leu | Pro | Thr | Lys | Ile 30 | Leu | Val |
| 25 | Lys | Pro | Asp 35 | Arg | Thr | Phe | Glu | Ile 40 | Lys | Ile | Gly | Gln | Pro 45 | Thr | Val | Ser |
| 30 | Тут | Pho 50 | Leu | Lys | Ala | Ala | Ala 55 | Gly | Ile | Glu | Lys | Gly 60 | Ala | Arg | Gln | Thr |
| | Gly 65 | Lys | Glu | Val | Ala | Gly 70 | Leu | Val | Thr | Leu | Lys 75 | His | Val | Tyr | Glu | Ile 80 |
| 35 | Ala | Arg | Ile | Lys | A1a 85 | Gln | Asp | Glu | Ala | Phe 90 | Ala | Leu | Gln | Asp | Val 95 | Pro |
| | Leu | Ser | Ser | Val 100 | Val | Arg | Ser | Ile | Ile 105 | | Ser | Ala | Arg | Ser 110 | | Gly |
| 40 | Ile | Arg | Val 115 | | Lys | Asp | Leu | Ser 120 | Ser | Glu | Glu | Leu | Ala 125 | Ala | Phe | Gln |
| 45 | Lys | Glu 130 | | Ala | Ile | Phe | Leu 135 | | Ala | Gln | | Glu 140 | | Asp | Leu | Ala |
| 15 | Ala 145 | Gln | Glu | Glu | Ala | Ala 150 | Lys | Lys | | | | | | | | |
| 50 | (2) | INF | ORMA | TION | FOR | SEQ | ID | NO: | 484: | | | | | | | |
| 55 | | | | | (A) I (B) 1 (D) 1 | LENGT TYPE: TOPOI | TH: 2 : am: LOGY | 270 a ino a : lir | amino acid near | o aci | |): 4 8 | 34: | | | |
| 60 | Ala 1 | | Tyr | Thr | Tyr 5 | | Glu | Lys | Lys | : Lys | | Thr | Ala | . Ala | Ser 15 | Gly |

| | Tir | Gly | Thr | Gln 20 | Asn | Ile. | Arg | Leu | Ser 25 | Arg | Asp | Ala | Val | Lys 30 | Asp | Phe |
|----|------------|-----------|--------------|--------------|--------------|------------|------------|------------|--------------|---------------|--------------|--------------|------------|--------------|--------------|--------------|
| 5 | Asp | Cys | Cys 35 | Cys | Leu | Ser | Leu | Gln 40 | Pro | Суз | His | Asp | Pro 45 | Val | Val | Thi |
| | Pro | Asp 50 | Gly | Tyr | Leu | Tyr | Glu 55 | Arg | Glu | Ala | Ile | Leu 60 | Glu | Tyr | Ile | Len |
| 10 | His 65 | Gln | Lys | Lys | Glu | Ile 70 | Ala | Arg | Gln | Met | Lys 75 | Ala | Tyr | Glu | Lys | Gln 80 |
| 15 | Arg | Gly | Thr | Arg | Arg 85 | Glu | Glu | Gln | Lys | Glu 90 | Leu | Gln | Arg | Ala | Ala 95 | Ser |
| | Gln | Asp | His | Val 100 | Arg | Gly | Phe | Leu | Glu 105 | Lys | Glu | Ser | Ala | Ile 110 | Val | Ser |
| 20 | Arg | Pro | Leu 115 | Asn | Pro | Phe | Thr | Ala 120 | Lys | Ala | Leu | Ser | Gly 125 | Thr | Ser | Pro |
| 25 | Asp | Asp | | Gln | Pro | Gly | Pro 135 | Ser | Val | Gly | Pro | Pro 140 | Ser | Lys | Αrp | Lys |
| 25 | Asp 145 | | s Val | Leu | Pro | Ser 150 | | Trp | Ile | Pro | Ser 155 | Leu | Thr | Pro | Glu | Ala 160 |
| 30 | Lys | : Ala | a Thr | Lys | Leu 165 | | Lys | Pro | Ser | Arg 170 | Thr | Val | Thr | Cys | Pro 175 | Met |
| | Ser | Gly | y Lys | 5 Pro 180 | | Arg | Met | Ser | 185 | | Thr | Pro | Val | His 190 | Phe | Thr |
| 35 | Pro |) Le | u Asp 195 | | Ser | Val | Asp | Arg 200 | | G15 | z Leu | Ile | 205 | Arg | Ser | Glu |
| 10 | AπĢ | ту 21 | | l Cys | s Ala | Val | Thr 215 | | j Asp | Sei | : Leu | : Ser 220 | Asr | n Ala | Thr | Pro |
| 40 | Cy: | | a Va | l Let | ı Arş | Pro 230 | | Gly | / Ala | a Val | l Val 235 | Thi | : Le | ı Gh | ı Cys | 5 Val 240 |
| 45 | G1· | u Ly | n le | u Tl÷ | e Arc 245 | | s Asp | e Met | t Val | L A.a. 259 | p Pro | o Val | l Th | r Gly | 7 Apr 259 | o Lys S |
| | Le | u Th | ır As | p Aid 26 | | o Ile | e Ile | 2 V.a. | l Lev 269 | | n Aze | j Gl | y Gl | y Thi 270 | 5 | |
| 50 | | | | | | | | | | | | | | | | |
| | (2 |) IN | JFORM | iatio | N FOI | R SE | Q ID | : OII | 485 | : | | | | | | |

V. Primer Element Novel II by An

 60° . Type Levi Byz. Also Ara Clu Alectle Levi Uni Type the Levi His alm Lye.

| (2) INFORMATION FOR SEQ ID NO: 486: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 64 amino acids (B) TYPE: amino acids (D) TOPOLOGY: linear (EX) SEQUENCE DESCRIPTION: SEQ ID NO: 486: Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gin Pro 1 5 10 15 Gly Pro Ser Val Cly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro 20 25 30 Ser Phe Trp lie Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu 35 40 45 Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu 50 60 (2) INFORMATION FOR SEQ ID NO: 487: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 56 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear (XI) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | | 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
|--|-----|-------|-------|-------|--------------------------|-------------------------------|--------------------------------|-------------------------------|-----------------------------|-----------------------------|-------|------|---------------|-------|-----|-------|-------|---|
| Arg Arg Glu Glu Gln Lys Glu Leu Gln Arg Ala Ala Ser Gln Asp His 35 40 Val Arg Gly Phe Leu Glu 50 (2) INFCENATION FOR SEQ ID NO: 486: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 64 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear (Xi) SEQUENCE CESCRIPTION: SEQ ID NO: 486: Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gln Pro 1 15 25 Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro 26 27 30 Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu 37 40 Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu 58 60 (2) INFORMATION FOR SEQ ID NO: 487: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 56 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | 5 | Lys | Glu I | Ile . | | Arg | Gln M | Met I | ys <i>i</i> | | lyr | Glu | Lys | Gln | | Gly | Thr | |
| (2) INFORMATION FOR SEQ ID NO: 486: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 64 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (M) SEQUENCE DESCRIPTION: SEQ ID NO: 486: Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gln Pro 1 5 10 15 25 Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro 20 25 30 Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu 35 40 45 Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu 50 55 60 (2) INFORMATION FOR SEQ ID NO: 487: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 56 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (XI) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | 3 | Arg . | Arg (| | Glu | Gln | Lys (| Glu I | | Gln . | Arg | Ala | Ala | | Gln | Asp | His | |
| (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 64 amino acids (B) TYPE: amino acids (C) TYPE: amino acid (D) TOPOLOGY: linear (E) Leu Ser Gly Thr Ser Pro Asp Asp Val Gla Pro (D) TOPOLOGY: linear (E) Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu (E) TYPE: amino acid (E) TYPE: amino acid (E) TYPE: amino acid (D) TOPOLOGY: linear (Xi) SEQUENCE CHARACTERISTICS: (A) LENGTH: 56 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile (D) TOPOLOGY: linear (D) TOPO | 10 | Val | | Gly | Phe | Leu | Glu | | | | | | | | | | | |
| Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gln Pro 1 | 15 | (2) | (| i) S | EQUE (. (.) (.) | ENCE A) L' B) T D) T | CHAR ENGTH YPE: OPOLO | ACTE 1: 64 amin XGY: | RIST ami o ac line | TCS: lno a sid ear | acids | | | | | | | |
| Gly Pro Ser Val Cly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro 20 25 30 Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu 35 40 45 Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu 50 55 60 (2) INFORMATION FOR SEQ ID NO: 487: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 56 amino acids (B) TypE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | 20 | | | | | | | | | | | | | | | | | |
| Ser Phe Trp lie Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu 35 | | | Thr | Ala | Lys | | Leu | Ser | Gly | Thr | | Pro | Asp | Asp | Val | | Pro | |
| Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu 50 Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu 50 (2) INFORMATION FOR SEQ ID NO: 487: (a) LENGTH: 56 amino acids (b) TYPE: amino acid (c) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 50 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 Leu Glu Cys Val Glu Lys Leu Ile | 25 | Gly | Pro | Ser | | Gly | Pro | Pro | Ser | | Asp | Lys | Asp | Lys | | Leu | Pro | |
| Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu 50 55 60 35 (2) INFORMATION FOR SEQ ID NO: 487: 40 (i) SEQUENCE CHARACTERISTICS: | 30 | Ser | Phe | | Ile | Pro | Ser | Leu | | Pro | Glu | Ala | Lys | | Thr | Lys | Leu | |
| (2) INFORMATION FOR SEQ ID NO: 487: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 56 amino acids (B) TYPE: amino acids (B) TYPE: amino acids (C) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | 50 | Glu | | Pro | Ser | Arg | Thr | | Thr | Cys | Pro | Met | | | Lys | Pro | Leu | |
| (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 56 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | 35 | | | | | | | | | | | | | | | | | |
| (A) LENGTH: 56 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear 45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | 40 | (2) | | | | | | | | | : | | | | | | | |
| 45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487: Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | | | | . = 1 | , | (A) I (B) T | LENGT TYPE : | H: 5 ami: | 6 am no a | ino cid | | ls | | | | | | |
| 1 5 10 15 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser 20 25 30 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | 45 | | | (xi) | | | | | | | EQ I | D NO | o: 4 8 | 37 : | | | | |
| Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr 35 40 45 Leu Glu Cys Val Glu Lys Leu Ile | | | | Phe | Thr | | | qzA | Ser | Ser | | | Arg | y Val | Gl) | | | |
| 35 40 45 55 Leu Glu Cys Val Glu Lys Leu Ile | 50 | Thr | : Arg | Ser | | | Tyr | Val | Cys | | | Thr | r Arg | J Asr | | | ı Ser | |
| Leu Glu Cys Val Glu Lys Leu Ile | e e | Asn | n Ala | | | суз | s Ala | Val | | | Pro | Ser | c Gly | | | l Val | l Thr | |
| | 33 | Leu | | - | Val | l Glu | ı Lys | | Ile | | | | | | | | | - |

| | (2) | INFO | RMAT | 100 | FOR | SEQ | ID N | 0: 4 | 88: | | | | | | | |
|----|------------|------------|---------------|------------|-----------------------|-------------------------|-----------------------|------------------------|--------------------|------------|--------------|---------------|------------|------------|------------|-----------|
| 5 | | | (i) S (xi) | () (E | A) LI B) T O) T | ENGTH YPE : OPOLO | H: 56 amir XGY: | 57 am no ac line | mino cid ear | acid | | : 4 38 | ₹: | | | |
| 10 | Met 1 | Asp | Thr | Ser | Glu 5 | Asn | Arg | Pro | Glu | Asn 10 | Aup | Val | Pro | Glu | Pro 15 | Pro |
| | Met | Pro | Ilė | Ala 20 | Asp | Gln | Val | Ser | Asn 25 | Asp | qaA | Arg | Pro | Glu 30 | Gly | Ser |
| 15 | Val | Glu | Asp 35 | Glu | Glu | Lys | Lys | Glu 40 | Ser | Ser | Liketi | Pro | Lys 45 | Ser | Phe | Lys |
| 20 | Arg | Lys 50 | Ile | Ser | Val | Val | Ser 55 | Ala | Thr | Lys | Gly | Val 60 | Pro | Ala | Gly | Acn |
| 20 | Ser 65 | Asp | Thr | Glu | Gly | Gly 70 | Gln | Pro | Glγ | Arg | Lys 75 | Arg | Arg | Trp | Gly | Ala 80 |
| 25 | Ser | Thr | Ala | Thr | Thr 85 | Gln | Lys | Lys | Pro | Ser 90 | Ile | Ser | Ile | Thr | Thr 95 | Glu |
| | Ser | Leu | Lys | Ser 100 | Leu | Ile | Pro | Asp | Ile 105 | Lys | Pro | Leu | Ala | Gly 110 | Gln | Glu |
| 30 | Ala | Val | Val 115 | Asp | Leu | His | Ala | Asp 120 | Asp | Ser | Arg | Ile | ser 125 | Glu | Апр | Glu |
| 35 | Thr | Glu 130 | Arg | Asn | Gly | Asp | Asp 135 | Gly | Thr | His | Asp | Lys 140 | Gly | Leu | Lys | Tle |
| 55 | Cys 145 | | Thr | Val | Thr | Gln 150 | Val | Val | Pro | Ala | Glu 155 | | Gln | Glu | Asn | G17 |
| 40 | Gln | Arg | Glu | Glu | Glu 165 | | Glu | Glu | Lys | Glu 170 | Pro | Glu | Ala | Glu | Pro 175 | |
| | Val | Pro | Pro | Gln 130 | | Ser | Val | Glu | Val 135 | | Leu | Pro | Pro | Pro 190 | | Gla |
| 45 | His | Glu | Val 195 | | Lys | - Val | Thr | Leu 200 | | : Aup | The | Leu | Thr 205 | | Arq | Se. |
| 50 | Ile | Ser 210 | Gln | Gln | . Lys | : Ser | Gly 215 | | Ser | · Ile | Thr | 11e | | Asp | Pro | Va. |
| 50 | Arg 225 | | r Ala | . Gln | . Val | . Pro 230 | | Pro | Pro | Arg | 7 Gly 235 | | ; Ile | e ser | - Asn | 11: 24 |
| | | | | | | | | | | | | | | | | |

 60° . Amp Lyo II- Lyo Cer Has Cys Phe Val Thr Tyr Ger Thr Val. He Glu.

| | | | 275 | | | | | 280 | | | | | 285 | | | |
|----|------------|------------|------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|--------------|------------|------------|------------|
| ح | Ala | Val 290 | Ala | Thr | Arg | | Ala 295 | Leu | His | Gly | Val | Lys 300 | Trp | Pro | Gln | Ser |
| 5 | Asn 305 | Pro | Lys | Phe | Leu | Cys 310 | Ala | Asp | Tyr | Ala | Glu 315 | Gln | Asp | Glu | Leu | Asp 320 |
| 10 | Tyr | His | Arg | Gly | Leu 325 | Leu | Val | Asp | Arg | Pro 330 | Ser | Glu | Thr | Lys | Thr 335 | Glu |
| | Glu | Gln | Gly | 11e 340 | Pro | Arg | Pro | Leu | His 345 | Pro | Pro | Pro | Pro | Pro 350 | Pro | Val |
| 15 | Gln | Fro | Pro 355 | Gln | His | Pro | Arg | Ala 360 | Glu | Gln | Arg | Glu | Gln 365 | Glu | Arg | Ala |
| 20 | Val | Arg 370 | | Gln | qıT | Ala | Glu 375 | Arg | Glu | Arg | Glu | Met 380 | Glu | Arg | Arg | Glu |
| | Arg 385 | Thr | Arg | Ser | Glu | Arg 390 | Glu | Trp | Asp | Arg | Asp 395 | Lys | Val | Arg | Glu | Gly 400 |
| 25 | Pro | Arg | Ser | Arg | Ser 405 | Arg | Ser | Arg | Xaa | Arg 410 | Arg | Arg | Lys | Glu | Arg 415 | Ala |
| | Lys | Ser | · Lys | Glu 420 | | Lys | Ser | Glu | Lys 425 | Lys | Glu | Lys | Ala | Gln 430 | Glu | Glu |
| 30 | Pro | Pro | Ala 435 | | Leu | Leu | Asp | Asp 440 | Leu | Phe | Arg | Lys | Thr 445 | Lys | Ala | Ala |
| 35 | | 450 |) | | | | 455 | ı | | | | 460 | | | | |
| | 465 | • | | | | 470 | | | | | 475 | | Lys | | | 480 |
| 40 | | | | | 485 | • | | | | 490 |) | | Glu | | 495 | |
| | | | | 500 |) | | | | 505 | 5 | | | g Glu | 510 | | |
| 45 | | | 519 | 5 | | | | 520 |) | | | | g Asp 525 | 5 | | |
| 50 | | 53 | 0 | | | | 53 | 5 | | | | 540 | | | | |
| | Arg 54 | | g As | p Thi | r Lys | 550 | | s Sei | r Arg | g Sei | 55 | | r Arg | g Sei | Thi | 560 |
| 55 | Va | l Ar | g As | p Ar | g Gly 569 | | y Ar | g | | | | | | | | |
| | | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO: 489:

BNSDOCID -WO 9854963A2_1 >

| _ | | | (: | 3) T | YPE: | | | | acid. | | | | | | |
|-----|---------------|-------------|-----------|----------------------|--------------------------|---------------------|-------------------------|----------------------|-----------|-------|-------|-----------|-----------|-----------|-----|
| | | | | | OPOL | | | | | | • 0 | 61 | | | |
| 5 | | (xi) | SEQI | JENCI | E DE | SCRII | PTIO | M: Si | EQ II | D NO | : 48 | 9: | | | |
| | Gly Cys | Asp | Ser | Cys 5 | Fro | Pro | His | Leu | Pro 10 | Arq | Glu | Ala | Phe | Ala 15 | Gln |
| 10 | Asp Thr | Gln | Ala 20 | Slu | Gly | Glu | Cys | Ser 25 | Ser | Arg | Ala | Glu | Arg 30 | Ala | Asp |
| 15 | Met Cys | Pro 35 | Asp | Ala | Pro | Pro | Ser 40 | Gln | Glu | Val | Pro | Glu 45 | Gly | Pro | Gly |
| 1.5 | Ala Ala 50 | | | | | | | | | | | | | | |
| 20 | (2) INF | FORMA | TION | FOR | SEQ | ID | NO: | 490: | | | | | | | |
| 25 | | | - (| A) I B) T O) T | JENGT TYPE : TOPOL | H: 5 ami OGY: | 50 an .no a . lir | nino ncid near | acid | |): 49 | 0: | | | |
| 30 | Pro Gli | n Leu | ı Pro | Ser 5 | | Gly | Arq | Pro | Trp. | | Gly | Thr | Ala | Ser 15 | |
| | Phe Gli | n Ser | His 20 | Thr | Gln | . Gly | Pre | Arg 25 | | ı Asp | Frc | Asp | Pro 30 | | Arg |
| 35 | Ala Gl | n Gly 35 | | Ala | Gly | Thr | His 40 | | : Pre | , Ile | e Ser | Leu 45 | | Pro | Pro |
| 40 | Arg Gl 5 | | | | | | | | | | | | | | |
| | (2) IN | FCRM | ATIO! | FOR | R SEQ |) ID | NO: | 491: | | | | | | | |
| 45 | | | | (A) (B) (D) | LENG TYPE TOPO | TH: : am LOGY | 42 a ino : li | mino acid near | aci | | O: 4 | 91: | | | |
| 50 | Pro Gl | | | ı Gl | | | | | | u Gl | | | r Ph | e Phe | |

| | (2) I | NFC: | PMAT | ,IOM | FOP | SEQ | ID N | 0:4 | 92: | | | | | | | |
|----|-------------|-----------|-----------|--------------|-----------------------|------------------------|-----------------------|-----------------------------|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5 | | | | (E | A) LE 3) T O) T | ENGTH (PE: DPOLO | i: 84 amir XGY: | lami no ac line | no a id ar | acids | | 492 | l r | | | |
| 10 | Glu A | sp | Leu | Lys | Lys 5 | Pro | Asp | Pro | Ala | Ser 10 | Leu | Arg | Ala | Ala | Ser 15 | Cys |
| 15 | Gly (| Slu | Gly | Lys 20 | Lys | Arg | Lys | Ala | Cys 25 | Lys | Asn | Cys | Thr | Cys 30 | Gly | Leu |
| 13 | Ala (| Glu | Glu 35 | Leu | Glu | Lys | Glu | Lys 40 | Ser | Arg | Glu | Gln | Met 45 | Ser | Ser | Gln |
| 20 | Pro I | Lys 50 | Ser | Ala | Суз | Gly | Asn 55 | Cys | Tyr | Leu | Gly | Asp 60 | Ala | Phe | Arg | Cys |
| | Ala S 65 | Ser | Cys | Pro | Tyr | Leu 70 | Gly | Met | Pro | Ala | Phe 75 | Lys | Pro | Gly | Glu | Lys 80 |
| 25 | Val 1 | Leu | Leu | Ser | | | | | | | | | | | | |
| 30 | (2) | | | TION SEÇU | | | | | | : | | | | | | |
| 35 | | | (xi) | (| B) 1 | YPE: | ami :OGY | 0 am no a lin PTIO | cid ear | | | : 49 | 3: | | | |
| 40 | Glu 1 | Asp | Leu | Lys | ry.s | | Asp | Pro | Ala | Ser 10 | | Arg | Ala | Ala | Ser 15 | |
| .0 | Gly | Glu | Gly | , Pàs 50 | | Arg | Lys | Ala | Cys 25 | | Asn | Cys | Thr | Cys 30 | | Leu |
| 45 | Ala | Glu | Glu 35 | | Glu | Lys | Glu | Lys 40 | | Arg | Glu | Gln | Met 45 | | Ser | Gln |
| | Pro | Lys 50 | | c Ala | Cys | : Gly | Asn 55 | | Tyr | Leu | (Gly | Asp 60 | | Phe | · Arg | Cys |
| 50 | Ala 65 | Ser | · Cys | s Pro | Tyr | Leu 70 | | / Met | Pro | Alā | Phe 75 | | Pro | Gly | r Glu | Lys 80 |
| 55 | Val | Lev | ı Let | ı Ser | ASP 85 | | c Asr | ı Leu | His | ASP 90 | | | | | | |
| | (2) | INF | FORM | IC-LTA | 4 FOI | R SEG | Q ID | NO: | 494 | : | | | | | | |

60 (i) SEQUENCE CHARACTERISTICS:

| | (A) LENGTH: 34 amino acids (B) TYPE: amino acid |
|-----|---|
| | (D) TOPOLOGY: linear |
| 5 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 494: |
| 5 | Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys Ala Ser Cys Pro 1 5 10 15 |
| 10 | Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys Val Leu Leu Ser 20 25 30 |
| | App Ser |
| 15 | |
| | (3) INFORMATION FOR SEÇ ID NO: 495: |
| 20 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 25 amino acids (B) TYPE: amino acid (D) TOPOLOCY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 495: |
| 25 | Ser Cys Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys 1 5 10 15 |
| 30 | Gly Leu Ala Glu Glu Leu Glu Lys Glu 25 |
| | (2) INFORMATION FOR SEQ ID NO: 496: |
| 35 | (i) SEQUENCE CHARACTERISTICS: (A) LENCTH: 21 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 40 | (xi) DEQUENCE RESCRIPTION: SEQ ID NO: 496: Ser Gln Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Pho 1 5 10 15 |
| 45 | Ang Tys Ala Ger Cys |
| 50 | (2) INFORMATION FOR SEQ ID NO: 497: |
| - 1 | (i) SEQUENCE CHARACTERISTICS: (A) LEMSTH: 17 amino acids (b) Transfer prince (si i |
| | |
| | |

Section A made and

60 A.m

| 5 | (2) | INFO | PMAT | ION : | FOR | SEQ | ID N | 0:4 | 98 : | | | | | | | | | | |
|-----------|-----------|-----------|-----------|-------------|-------------------------|------------------------|-----------------------|----------------------|-----------------------|-----------|-------------|-------------|-----------|-------------|-------------|-------------|---|----------------|--|
| 10 | | | | (E | () LE 3) TY 5) TC | ENGTH (PE: OPOLO | H: 90 amir XGY: | ami no ac line | no a id ear | acid | | 498 | 3 : | | | | | | |
| 15 | Glu 1 | Ser | Ser | Gly | Gln 5 | Ala | Arg | Thr | Leu | Ala 10 | Asp | Pro | Gly | Pro | Gly 15 | Trp | | | |
| 15 | Pro | Arg | Gln | Gln 20 | Gly | Met | Cys | Phe | Gly 25 | Ser | Leu | Thr | Gly | Leu 30 | Ser | Thr | | | |
| 20 | Thr | Pro | His 35 | Gly | Phe | Leu | Thr | Val 40 | Ser | Ala | Glu | Ala | Asp 45 | Pro | Arg | Leu | | | |
| | Ile | Glu 50 | | Leu | Ser | Gln | Met 55 | Leu | Ser | Met | Gly | Phe 60 | Ser | Asp | Glu | Gly | | | |
| 25 | Gly 65 | | Leu | Thr | Arg | Leu 70 | Leu | Gln | Thr | Lys | Asn 75 | Tyr | Asp | Ile | Gly | Ala 80 | | | |
| 30 | Ala | Leu | ı Asp | Thr | Ile 85 | Gln | Tyr | Ser | Lys | His | | | | | | | | | |
| 35 | (2) | INE | | (| ENCE A) L B) I | CHA LENGT TYPE: | RACT | | TICS mind acid | | ids | | | | | | | | |
| 40 | Glr | ı Glı | | SEÇ | UEN: | E DE | SCRI | PTIC | N: S | | | | | s Leu | ı Val | l Val | | | |
| 45 | | l s Gl | u Pro | o Gly 20 | | | a Alā | a Ala | Gl _y 25 | | | Gly | / Gly | / Ala 30 | 19 a Ala | a Leu | | | |
| | Gly | y Gl | u Ala | | Pro | Gly | / Arq | y Val 40 | | a Phe | e Xaa | Alá | a Val | | g Se: | r His | | | |
| 50 | Hi | | s Glo | ı Pro | Alá | a Gly | 7 Glu 59 | | c Gly | / Asi | n Gly | 7 Thi 60 | | r Gly | y Al | a Ile | | | |
| <i>==</i> | ТУ 6 | | e As | p Glr | n Val | l Lei 70 | | l Ası | n Gli | Gl د | y Gly 75 | | y Ph | e As | p Ar | g Ala 80 | | | |
| 55 | Se | r Gl | y Se | r Phe | e Val | | a Pr | o Va | l Ar | g Gl 9 | | 1 ту | r Se | r Ph | e Ar 9 | g Phe 5 | - | . - | |
| 60 | Hi | s Vā | al Va | l Ly: | | 1 Ty | r As | n Ar | g Gl 10 | | r Val | l Gl | n Va | l Se 11 | | u Met | | | |

Programme and A

| | Leu | Aun | Thr 115 | Trp | Pro | Val | Ile | Ser 120 | Ala | Phe | Ala | Asn | Asp 105 | Fro | Asp | Val |
|----|------------|--------------|------------|-------------------|-----------------------|-------------------------------|------------------------------|------------------------------|------------------------------|-----------|--------------------|------------|------------|-------------|-----------|------------|
| 5 | Thr | Arg 130 | Glu | Ala | Ala | Thr | Ser 135 | Ser | Val | Leu | Leu | Pro 140 | Leu | Asp | Pro | Gly |
| 0 | Аэр 145 | Аrq | Val | Ser | Leu | Arg 150 | Leu | Avg | Arg | Gly | Xaa 1 55 | Ser | Thr | Gly | Trp | |
| 15 | (2) | INP | | (| ENCE | CHA ENGT YPE : | RACT H: 3 ami | ERIS 2 am .no a | TICS uno icid | | ls | | | | | |
| 20 | Pr . | | | SEÇ | CFIK | E DE | SCRI | PTIC | M: S | | · Arg | | | Pro | Pro 15 | Ser |
| 25 | His | Ger | Ala | Thr 20 | | Gly | Val | Leu | . Arg 25 | | Arg | Lys | Lys | Pro 30 | Asp | Pro |
| 30 | (2) | חוז ד | TORNY | ለ ጣ Τ ፡ቦ ለ | माध्य । | ্ৰফ | מז (| N∩: | 501: | | | | | | | |
| 35 | (2) | | 1) | ZEÇ | JENCI (A) (B) (| E CHI LENG TYPE TOPO | ARAC' TH: : am LOGY | reri: 31 a ino : li | STIC: mino acid | S: aci | | D: 51 | 01: | | | |
| 40 | | t Th: | r Lei | ı Ile | | r Pro | Se: | r Xaa | a Ly: | s Lei | | r Phe | ⊇ Xaa | a Ly: | s Gl | y Asn 5 |
| 45 | Бу. | s Se | r Tr | p ./- | | r Ar: | g Al | a Cy: | s Set | | r Th | r be | u Va | 1 A3) 31 | | O |
| 50 | (2 |) IN | | | UENC (A) | E CH LENC TYPE | ARAC TH: L: an | TERI 51 a mino | 502 STIC amino acid | S: aci | ids | | | | | |
| 60 | | en let | Cy | ra A.: | ş (1) | u Vi | i Fr | $ ightarrow \Gamma_i$ | | y Gl | | а Ні | a V | 1 771 | ir Ai | ng Thys |

| | Cys Lys Lys Pro Leu Thr Asn Ser His Leu Glu Thr Glu Ala Gln Ser 35 40 45 | |
|----|---|-------|
| 5 | Ser Ser Leu 50 | |
| 10 | (2) INFORMATION FOR SEQ ID NO: 503: | |
| 15 | (i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 263 base pairs(B) TYPE: nucleic acid(C) STRANDEDNESS: double(D) TOPOLOGY: linear | |
| | (x1) SEQUENCE DESCRIPTION: SEQ ID NO: 503: | |
| 20 | GCTTCGTGTC CAACCCTCTT GCCCTTCGCC TGTGTCCCTG GAGCCAGTCC CACCACCCTC | 60 |
| | GOSTTTOCTO OTGTAGTSCT CACAGGTOCO AGCACOGATG GCATTCCCTT TGCCCTGAGT | 120 |
| 25 | CTHECASCISGS TOO TITTEST SCITCCITIC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC | 180 |
| 25 | TOCOGGGGT GARRIGGTTA COCCTTCCCA GTGTTTTITA TTCCTGTGGG GCTCACCCCA | 240 |
| | AAGTATTAAA AGTAGCTTTG TAA | 263 |
| 30 | | |
| | (2) INFORMATION FOR SEQ ID NO: 504: | |
| 35 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 263 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: double (D) TOPOLOGY: linear | |
| 40 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 504: | |
| | GCTTCGTGTC CAACCCTCTT GCCCTTCGCC TGTGTGCCTG GAGCCAGTCC CACCACGCTC | 60 |
| 45 | GCGTTTCCTC CTGTAGTGCT CACAGGTCCC AGCACCGATG GCATTCCCTT TGCCCTGAGT | 120 |
| | CTGCAGCGGG TCCTTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC | 180 |
| 50 | TCCCGGGGGT GAGGGGTTA CCCCTTCCCA GTGTTTTTTA TTCCTGTGGG GCTCACCCCA | 240 |
| 50 | AAGTATTAAA AGTAGCTTTG TAA | 263 |
| 55 | (2) INFORMATION FOR SEQ ID NO: 505: | · . • |
| | (i) SEQUENCE CHARACTERISTICS: | |
| 60 | (A) LENGTH: 263 base pairs (B) TYPE: nucleic acid | |

| | (C) STRANDEDNESS: double (D) TOPOLOGY: linear | |
|-----|---|----------------|
| | | |
| 5 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 505: | |
| | SCTTCSTGTC CAACCCTCTT GUCCTTCGCC TGTGTGCCTG GAGCCAGTCC CACCACGCTC | 6 0 |
| | GCGTTTCCTC UTGTAGTGCT CACAGGTDCC AGCACCGATG GCATFUCCTT TGCCCTGAGT | 120 |
| 10 | CTGCAGCGGG TCCCTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC | 130 |
| | TOCCOGOGGT GAGGOGGTTA CCCCTTCCIA GTGTTTTTTA TTCCTGTGGG GCTCACCCCA | 240 |
| | ANSTATTAAA AGTAGCTTTG TAA | 263 |
| 15 | | |
| 20 | (2) INFORMATION FOR SEQ ID NO: 506: | |
| | (i) DEQUENCE CHARACTERISTICS: (A) LENGTH: 160 base pairs (B) TYPE, nucleic acid (C) STRANDEDNESS: double | |
| 25 | (D) TOPOLOGY: linear | |
| | (X1) SEQUENCE DESCRIPTION: SEQ ID NO: 506: | |
| 30 | TOGETCACTS TETTACANTE ACTOCTOTOG AATEATGATA CCACTTITAG ETETTTGEAT | 60 |
| 50 | CTTCCTTCAG TUTATTTTTG TTTTCAAGA GGAAGTAGAT TTTAACTGGA CAACTTTVAG | 120 |
| | TACTGACATC ATTGATAAAT AAACTGGCTT GTGGTTTCAA | 160 |
| 35 | | |
| | (2) INFORMATION FOR SEQ ID NO: 507: | |
| 10 | | |
| 40 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 292 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear | |
| 45 | XI) SEQUENCE DESCRIPTION: SEQ ID NO: 507: | |
| 4.7 | Deu Asp Glu Deu Met Ala His Leu Thr Glu Met Gln Ala Dys Val Aid 1 5 10 15 | |
| 50 | Val Arg Ala Asp Ala Gly Lys Lys His Leu Pro Asp Lys Gln Asp His 20 25 30 | |
| | Ivs Ali Ser Leu Asp Ser Met Leu Gly Gly Leu Glu Glu Glu Leu Glu | |
| | Type It of her Alacity type Val Tier Hip Alacieus say Job Lee Dip Hip | |
| (() | | |

| | Pro | Glu: | His | Phe | Val 85 | Cys | Thr | His | Суз | Lys 90 | Glu | Glu | Ile | Gly | Ser 95 | Ser | | |
|----|------------|------------|--------------|--------------|-------------------|----------------------|----------------------|----------------------|----------------------|-------------|------------|--------------|--------------|------------|------------|--------------|---|--|
| 5 | Pro | Phe | Phe | Glu 100 | Arg | Ser | Gly | Leu | Xaa 105 | Тут | Cys | Pro | Asn | Asp 110 | Tyr | His | | |
| | Gln | Leu | Phe 115 | Ser | Pro | Arg | Cys | Ala 120 | Tyr | Cys | Ala | Ala | Pro 125 | Ile | Leu | Asp | | |
| 10 | Lys | Val 130 | Leu | Thr | Ala | Met | Asn 135 | Gln | Thr | Trp | His | Pro 140 | Glu | His | Phe | Phe | | |
| 15 | Cys 145 | Ser | His | Cys | Gly | Glu 150 | Val | Phe | Gly | Ala | Glu 155 | Gly | Phe | His | Glu | Lys 160 | | |
| | ysb | Lys | Lys | Pro | Тут 165 | Cys | Arg | Lys | Asp | Phe 170 | Leu | Ala | Met | Phe | Ser 175 | Pro | | |
| 20 | Lys | Cys | Gly | Gly 180 | Cys | Asn | Arg | Pro | Val 185 | Leu | Glu | Asn | Tyr | Leu 190 | Ser | Ala | | |
| | M⊖tr | Asp | Thr 195 | Val | Trp | His | Pro | Glu 200 | | Phe | Val | Cys | Gly 205 | Asp | Cys | Phe | | |
| 25 | Thr | Ser 210 | | Ser | Thr | Gly | Ser 215 | | Phe | Glu | Leu | . Asp 220 | | Arg | Pro | Phe | | |
| 30 | Сув 225 | | Leu | His | Т,т | His 230 | | Arg | Arg | ; Gly | Thr 235 | | . Cys | His | : Gly | Cys 240 | | |
| 50 | Gly | Gln | Pro | :le | 7hr 245 | | Arg | Cys | : Ile | 250 | | ı Met | : Gly | Тут | 255 | Phe | | |
| 35 | His | Pro | Glu | . His 260 | | e Val | . Cys | : Ala | 265 | | : Let | ı Thi | Glr | 270 | ı Ser) | . Lys | | |
| | Gly | 116 | e Phe 279 | | , Gli | ı Glr | ı Asr | 280 | | s Thi | Tyi | c Cys | 3 Glr 285 | n Pro | o Cy: | s Phe | | |
| 40 | Asr | Lys 290 | | ı Phe | • | | | | | | | | | | | | | |
| 45 | (2) | IN | | ATIO | | | | | | | | | | | | | | |
| 50 | | | | SEQ) SE | (A) (B) (D) | LENG TYPE TOPC | TH: : am :LOGY | 43 æ ino ': li | mino ació near | aci l | | io: 5 | 08: | | | | | |
| 55 | | s Al 1 | a Se | r Le | u As | p Se 5 | r Me | t Le | u Sl | | у L∈ О | u Gl | u Gl | n Gl | u Le 1 | eu Gln .5 | | |
| 55 | As | p Le | u Gl | | e Al O | a Th | r Va | l Pr | | rs Gl :5 | у Ні | s Cy | s Al | | 0 0 | rs Gln | - | |
| 60 | Ьy | s Fr | | e Al | a Gl | y Ly | s Va | | e Hi 10 | s Al | a Le | eu | | | | | | |

| 5 | (2) INFORMATION FOR SEQ ID NO: 509: |
|---------------|---|
|) | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 50 amino acids (B) TYPE: amino acid |
| 10 | (D) TOPOLOGY: linear (XI) SEQUENCE DESCRIPTION: SEQ ID NO: 509: |
| | Cys Pro Asn Asp Tyr His Gln Leu Phe Ser Pro Ard Cys Ala Tyr Cys 1 5 10 15 |
| 15 | Ala Ala Pro Ile Leu Asp Lys Val Leu Thr Ala Met Ash Gln Thr Trp 20 25 30 |
| 20 | His Pro Glu His Phe Phe Cys Ser His Cys Gly Glu Val Phe Gly Ala 35 45 |
| 2() | Glu Gly 50 |
| 25 | (2) INFORMATION FOR SEQ ID NO: 510: |
| 30 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 67 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 510: |
| 35 | Asp Lys Lys Pro Tyr Cys Arg Lys Asp Phe Leu Ala Met Phe Ser Pro 1 5 10 15 |
| | Lys Cys Gly Gly Cys Asn Arg Pro Val Leu Glu Asn Tyr Leu Ser Ala 20 25 30 |
| 40 | Met Asp Thr Val Trp His Pro Glu Cys Phe Val Cys Gly Asp Cys Phe 35 40 45 |
| 45 | Thir Ser Phe Ser Thr Gly Ser Phe Phe Glu Leu Asp Gly Arg Pro Phe 50 55 60 |
| - + _) | Cyc Ciu Leu 65 |
| 50 | (a) INFORMATION FOR SEQ ID MO: 511: |
| | er i kanske er i i stadi til di emellen sa genes gen. |
| | |
| 60 | olys oly olm and the Thr Sly Arg Cys the Cer Ala Met day Tyr Dys |

| | Phe F | His I | Pro (| Glu F 20 | dis 1 | Phe ¹ | Val (| Cys <i>i</i> | Ala : 25 | Phe ' | Cys 1 | Leu ' | Thr | Gln 30 | Leu | Ser | | |
|----|------------|------------|-------------|-------------|-------------------------|-------------------------|-----------------------|-----------------------|-----------------|------------|------------|------------|------------|------------|--------------|------------|---|---|
| 5 | Lys (| Sly | 11e : 35 | Phe / | Arg (| Glu (| Gln A | Asn A | Asp : | Lys | Thr ' | Tyr | Cys 45 | Gln | | | | |
| 10 | (2) | INFO | RMAT | IOI | FOR | SEQ | ID N | D: 5 | 12: | | | | | | | | | |
| 15 | | | | (F | A) LE B) TY D) TO | ENGTH (PE :)POL(| H: 45 amir XGY: | 2 am 10 ac line | ino id ar | acio | | : 512 | 2: | | | | | |
| 20 | Met 1 | Gly | Ser | Ser | Gln 5 | Ser | Val | Glu | Ile | Pro 10 | Gly | Gly | Gly | Thr | Glu 15 | Gly | | |
| 20 | Tyr | His | Val | Le: 20 | Arg | Val | Gln | Glu | Asn 25 | Ser | Pro | Gly | His | Arg 30 | Ala | Gly | | |
| 25 | Leu | Glu | Pro 35 | Phe | Phe | Asp | Phe | Ile 40 | Val | Ser | Ile | Asn | Gly 45 | Ser | Arg | Leu | | |
| | Asn | Lys 50 | Asp | Asn | Asp | Thr | Leu 55 | Lys | Asp | Leu | Leu | Lys 60 | Xaa | Asn | Val | Glu | | |
| 30 | Lys 65 | Pro | Val | Lys | Met | Leu 70 | Ile | Tyr | Ser | Ser | Lys 75 | Thr | Leu | Glu | Leu | Arg 80 | | |
| 25 | Glu | Thr | Ser | Vāl | Thr 85 | Pro | Ser | Asn | Leu | Trp 90 | Gly | Gly | Gln | Gly | Leu 95 | Leu | | |
| 35 | Gly | Val | Ser | 11e 100 | Arg | Phe | Cys | Ser | Phe 105 | Asp | Gly | Ala | Asn | Glu 110 | Asn | Val | | |
| 40 | Trp | His | Val 115 | | Glu | Val | Glu | Ser 120 | Asn | Ser | Pro | Ala | Ala 125 | | Ala | Gly | | |
| | Leu | Arg 130 | Pro | Hıs | Ser | Asp | Tyr 135 | Ile | Ile | Gly | Ala | Asp 140 | | Val | Met | Asn | | |
| 45 | Glu 145 | Ser | Glu | Asp | Leu | Phe 150 | | Leu | Ile | Glu | Thr 155 | | Glu | Ala | Lys | Pro 160 | | |
| 50 | Leu | Lys | Leu | Τγτ | Val 165 | | Asn | Thr | Asp | Thr 170 | | Asn | . Cys | : Arg | r Glu 175 | ı Val | | |
| 50 | Ile | Ile | Thr | Pro | | . Ser | Ala | Trp | Gly 185 | | Glu | ı Gly | 'Ser | Leu 190 | | / Cys | | |
| 55 | Gly | Ile | Gly 195 | | Gly | Tyr | Leu | His 200 | | ılle | e Pro | Thr | 205 | |) Phe | e Glu | | |
| | Glu | Gly 210 | | : Lys | Ile | : Ser | Leu 215 | | Gly | / Glr | n Met | 220 | | y Thi | r Pro | o Ile | - | - |
| 60 | Thr | Pro | Leu | ı Lys | Asp | Gly | z Phe | Thr | Glu | ı Val | Glr | ı Leu | ı Ser | r Ser | r Va | l Asn | | |

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| | 225 | | | | | 230 | | | | | 235 | | | | | 240 |
|----|------------|------------|------------|------------|-------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Pro | Pro | Ser | Leu | Ser 245 | Pro | Pro | Gly | Thr | Thr 250 | Gly | Ile | Glu | Gln | Ser 255 | Leu |
| ٦, | Thr | Gly | Leu | Ser 260 | Ile | Ser | Ser | Thr | Pro 265 | Pro | Ala | Val | Ser | Ser 270 | Val | Leu |
| 10 | Ser | Thr | Gly 275 | Val | Pro | Thr | Val | Pro 280 | Leu | Leu | Pro | Pro | Gln 285 | Val | Asn | Gln |
| | Ser | Leu 290 | Thr | Ser | Val | Pro | Pro 295 | Met | Asn | Pro | Ala | Thr 300 | Thr | Leu | Pro | Sly |
| 15 | Leu 305 | Met | Pro | Leu | Pro | Ala 310 | Gly | Leu | Pro | Asn | Leu 315 | Pro | Apn | Leu | Asn | Leu 320 |
| 20 | Asn | Leu | Pro | Ala | Pro 325 | His | Ile | Met | Pro | Gly 330 | Val | Gly | Leu | Pro | Glu 335 | Leu |
| 20 | Val | Asn | Pro | Gly 340 | Leu | Pro | Pro | Leu | Pro 345 | Ser | Met | Pro | Pro | Arg 350 | Asn | Leu |
| 25 | Pro | Gly | Ile 355 | Ala | Pro | Leu | Pro | Leu 360 | Pro | Ser | Glu | Phe | Leu 365 | Pro | Ser | Phe |
| | Pro | Leu 370 | Val | Pro | Glu | Ser | Ser 375 | Ser | Ala | Ala | Ser | Ser 380 | Gly | Glu | Leu | Leu |
| 30 | Ser 385 | Ser | Leu | Pro | Pro | Thr 390 | Ser | Asn | λla | Pro | Ser 395 | | Pro | Ala | Thr | Thr 400 |
| 35 | Thr | Ala | Lys | Ala | Asp 405 | Ala | Ala | Ser | Ser | Leu 410 | Thr | Val | Asp | Val | Thr 415 | Pro |
| | Pro | Thr | Ala | Lys 420 | | Pro | Thr | Thr | Va1 425 | | Asp | Arg | Val | Gly 430 | Asp | Ser |
| 40 | Thr | Pro | Val 435 | | Glu | Ly5 | Pro | Val 440 | | Ala | Ala | Val | Asp 445 | Ala | Apn | Ala |
| | See | Glu 450 | Ser | Pro | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | |
| | (2) | INF | ORMA | TION | FOR | . SEQ | ID | NO: | 51 3 : | | | | | | | |
| 50 | | | (i) | | (A) I (B) 7 (D) 7 | LENG TYPE TOPO! | TH: : : am LOGY | TERIS 109 a ino a : li: | amino acid near | o ac | ids | - | · = | | | |
| | | | | | | | | | | | | | | | | |

. The simples are the dig His Arradia styless shifts a fine line 25

| | Asp | Phe | 11e 35 | Val | Ser | Ile | Asn | Gly 40 | Ser | Arg | Leu | Asn | Lys 45 | Asp | Asn | Asp |
|----|------------|------------|------------|------------|------------------------------|-----------------------------|-----------------------------|------------------------------|----------------------------|-----------|-----------|------------|------------|------------|-----------|-----------|
| 5 | Thr | Leu 50 | Lys | Asp | Leu | Leu | Lys 55 | Xaa | Asn | Val | Glu | Lys 60 | Pro | Val | Lys | Met |
| | Leu 65 | Ile | Tyr | Ser | Ser | Lys 70 | Thr | Leu | Glu | Leu | Arg 75 | Glu | Thr | Ser | Val | Thr 80 |
| 10 | Pro | Ser | Asn | Leu | Trp 85 | Gl_Y | Gly | Gln | Gly | Leu 90 | Leu | Gly | Val | Ser | Ile 95 | Arg |
| 15 | Phe | Cys | Ser | Phe 100 | Asp | Gly | Ala | Asn | Glu 105 | Asn | Val | Trp | His | | | |
| 20 | (2) | | (i) | (| ENCE A) L B) T D) T | CHA ENGT YPE: OPCL | RACT H: 1 ami CGY: | ERIS' 45 a no a lin | TICS mino cid ear | aci | | . 51. | 4 - | | | |
| 25 | Glu 1 | | | Ser | | | | | | - | | | | His | Ser 15 | Asp |
| 30 | Tyr | Ile | Ile | Gly 20 | Ala | Asp | Thr | Val | Met 25 | Asn | Glu | Ser | Glu | Asp 30 | Leu | Phe |
| | Ser | Leu | Ile 35 | Glu | Thr | His | Glu | Ala 40 | Lys | Pro | Leu | Lys | Leu 45 | Тут | Val | Tyr |
| 35 | Aisn | Thr 50 | Asp | Thr | Asp | Asr. | 2ys 55 | Arg | Glu | 'Val | Ile | Ile 60 | Thr | Pro | Asn | Ser |
| 40 | Ala 65 | Trp | Gly | Gly | Glu | Gly 70 | Ser | Leu | Gly | €ys | Gly 75 | Ile | Gly | Tyr | Gly | Tyr 80 |
| | Leu | His | Arg | Ile | Pro 85 | Thr | Arg | Pro | Phe | Glu 90 | Glu | Gly | Lys | Lys | Ile 95 | Ser |
| 45 | Leu | Pro | Gly | Gln 100 | Met | Ala | Gly | Thr | Pro 105 | Ile | Thr | Pro | Leu | Lys 110 | Asp | Gly |
| | Phe | Thr | Glu 115 | Val | Gln | Leu | Ser | Ser 120 | Val | Asn | Pro | Pro | Ser 125 | Leu | Ser | Pro |
| 50 | Pro | Gly 130 | Thr | Thr | Gly | Ile | Glu 135 | Gln | Ser | Leu | Thr | Gly 140 | Leu | Ser | Ile | Ser |
| 55 | Ser 145 | | | | | | | | | | | | | | | |
| | (2) | INF | ORMA' | rion | FOR | SEQ | ID ! | NO: 5 | 515: | | | | | | | |

(i) SEQUENCE CHARACTERISTICS:

PCT/US98/11422

| | | | | (| B) T L) T | YPE: OPOL | ami OGY: | 45 au no a lin | cid ear | | | | | | | |
|----|-------------|------------|-----------|--------------|----------------------|------------------------|----------------------|-----------------------|--------------------|-----------|-------------|------------|-----------|------------|-----------|-------------|
| 5 | C1 | | | SEQ | | | | | | _ | | | | Wie | 0 | > |
| | l l | Sei | ASH | ser | 5 | Aid | Ald | Desti | Ald | 10 | Deu | wid | FID | mis | Ser 15 | ASĮ |
| 10 | Tyr | lle | Ile | Gly 20 | Ala | Asp | Thr | Val | Met 25 | Asn | Glu | Ser | Glu | Asp 30 | Leu | Phe |
| | Ser | Leu | Ile 35 | Glu | Thr | His | Glu | Ala 40 | Lys | Pro | Leu | Lys | Leu 45 | Tyr | Val | Τ'n |
| 15 | Asn | Thr 50 | Asp | Thr | Asp | Asn | Cys 55 | Arq | Glu | Val | Il∈ | Ile 60 | Thr | Pro | Asn | Ser |
| 20 | Ala 65 | Trp | GJĀ | Gly | Glu | Gly 70 | Ser | Leu | Gly | Суз | Gly 75 | Ile | Gly | Тут | Gly | Tyr 80 |
| | Leu | His | Arg | Ile | Pro 85 | Thr | Arg | Pro | Phe | Glu 90 | Glu | Gly | Lys | Lys | Ile 95 | Sei |
| 25 | Leu | Pro | Gly | Gln 100 | Met | Ala | Gly | Thr | Pro 105 | Ile | Thr | Pro | Leu | Lys 110 | Asp | Gl |
| 20 | | | 115 | | | | | 120 | | | | | 125 | | Ser | |
| 30 | | Gly 130 | | Thr | Glγ | []e | Glu 135 | Gln | Ser | Leu | Thr | Gly 140 | Leu | Ser | Ile | Se: |
| 35 | Ser 145 | | | | | | | | | | | | | | | |
| 40 | (2) | INF | | TION SEQU | | | | | | | | | | | | |
| | | | | (| A) I B) T D) T | ENGI TYPE: IOTOI | H: 1 imi: :YTO | .51 a .no a lin | mina add ear | aci | | | | | | |
| 45 | • | r 1 - | | SEÇ | | | | | | | | | | | | F |
| | ar; | | 3,20 | inr | Arq 5 | | r'r.c | 0.111 | .: _ 1.1 | 10 | | ₽¥15 | • ? | e-e-e | Leu 15 | PT |
| 50 | Gly | Gln | Met | Ala 20 | _ | Thr | Pro | lle | Thr 25 | | Leu | Lys | Asp | 31y 30 | Phe | Th |
| | 31u | Val | Gln | . โคน | Ser | Ser | Val | Asn 41 | Fro | Pro | Ser | Leu | Ser 45 | Pro | - Pro | G1 |
| 60 | 1 : •v\$ | | λ. : | . vai | . ~1 | *** | Va. | 13-14 | • 1 | Pre | 41.7 Tig | | ; * | lis | Ž4. | }**: |

| | Leu | Leu | Pro | Pro | Gln 85 | Val | Asn | Gln | Ser | Leu 90 | Thr | Ser | Val | Pro | Pro 95 | Met |
|-----|------------|------------|------------|------------|----------------------|-------------------------------------|---------------------|---------------------|--------------------|-----------|-----------|------------|------------|------------|-----------|-----------|
| 5 | Asn | Pro | Ala | Thr 100 | Thr | Leu | Pro | Gly | Leu 105 | Met | Pro | Leu | Pro | Ala 110 | Gly | Leu |
| | Pro | Asn | Leu 115 | Pro | Asn | Leu | Asn | Leu 120 | Asn | Leu | Pro | Ala | Pro 125 | His | Ile | Met |
| 10 | Pro | Gly 130 | | Gly | Leu | Pro | Glu 135 | Leu | Val | Asn | Pro | Gly 140 | Leu | Pro | Pro | Leu |
| 15 | Pro 145 | Ser | Met | Pro | Pro | Arg 150 | Asn | | | | | | | | | |
| 2.0 | (2) | INF | OPMA' | rion | FOR | SEQ | ID ! | NO: ! | 517: | | | | | | | |
| 20 | | | | (| A) L B) T D) T | CHA ENGT YPE: OPOL E DE | H: 1 ami OGY: | 09 a no a lin | mino cid ear | aci | | . 51 | 7 - | | | |
| 25 | Pro 1 | | | | | | | | | | | | | Leu: | Pro 15 | Gly |
| 30 | | Ala | Pro | Leu 20 | Pro | Leu | Pro | Ser | Glu 25 | | Leu | Pro | Ser | Phe 30 | | Leu |
| | Val | Pro | Glu 35 | Ser | Ser | Ser | Ala | Ala 40 | | Ser | Gly | Glu | Leu 45 | Leu | Ser | Ser |
| 35 | Leu | Pro 50 | | Thr | S∈r | Asn | Ala 55 | Pro | Ser | Asp | Pro | Ala 60 | Thr | Thr | Thr | Ala |
| 40 | Lys 65 | Ala | Asp | Ala | Ala | Ser 70 | Ser | Leu | Thr | Val | Asp 75 | | Thr | Pro | Pro | Thr 80 |
| .0 | Ala | Lys | Ala | Pro | Thr 85 | | Val | Glu | Asp | Arg 90 | Val | Gly | Asp | Ser | Thr 95 | Pro |
| 45 | Val | Ser | Glu | Lys 100 | | Val | Ser | Ala | Ala 105 | Val | Asp | Ala | Asn | | | |
| 50 | (2) | INF | ORMA | TICN | FOR | SEQ | ID | NO: | 518: | | | | | | | |
| 50 | | | (i) | | (A) I | CHA LENGI | TH: 9 | 93 ar | nino | | is | | | | | |
| 55 | | | (xi) | | (D) 1 | TOPOI | LOGY : | lir | near | EQ I | D NC |): 51 | .8: | | | |
| | Ile 1 | | Lys | Val | Phe | | His | Thr | Ale | Gly 10 | | . Lys | Pro | Glu | Val | Ser |
| 60 | Cys | Phe | e Glu | Asn | ılle | Arg | Ser | Cys | Ala | Arg | Xaa | Xaa | Хаа | Xaa | Xaa | Xaa |

| | | | | 20 | | | | | 25 | | | | | 30 | | |
|----|-----------|-----------|-----------|-----------|----------------------|--------------------------------------|---------------------|---------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5 | Xaa | Хаа | Xaa 35 | Xaa | Хаа | Хаа | Trp | Ile 40 | Phe | Gly | Val | Leu | His | Val | Val | His |
| J | Ala | Ser 50 | Val | Val | Thr | Ala | Tyr 55 | Leu | Phe | Thr | Val | Ser 60 | Asn | Ala | Phe | Glr |
| 10 | Gly 65 | Met | Phe | Ile | Phe | Leu 70 | Phe | Leu | Cys | Val | Leu 75 | Ser | Arg | Lys | Ile | Glr 80 |
| | Glu | Glu | Туг | Tyr | Arg 85 | Leu | Phe | Lys | Asn | Val 90 | Pro | Cys | Cys | | | |
| 15 | | | | | | | | | | | | | | | | |
| | (2) | INF | CAMAC | rion | FOR | SEQ | ID I | 10: 5 | 519: | | | | | | | |
| 20 | | | | (| A) L B) T D) T | CHAN ENGT YPE: OPOL E DE | H: 5 ami OGY: | 5 am no a lin | ino cid ear | acıd | | : 51 | 9: | | | |
| 25 | Trp 1 | Ile | Phe | Gly | Val 5 | Leu | His | Val | Val | His 10 | Ala | Ser | Val | Val | Thr 15 | Ala |
| 30 | Tyr | Leu | Phe | Thr 20 | Val | Ser | Asn | Ala | Phe 25 | Gln | Gly | Met | Phe | Ile 30 | P'ne | Let |
| | Phe | Leu | Cys 35 | Val | Leu | Ser | Arg | Lys 40 | Ile | Gln | Glu | Glu | Tyr 45 | Tyr | Arg | Let |
| 35 | Phe | Lys 50 | Asn | Val | Pro | Cys | Cys 55 | | | | | | | | | |
| 40 | (2) | INF(| ORMA' | rion | FCR | SEQ | ID I | 10: 5 | 520: | | | | | | | |
| | | | (i) . | (| A) L B) T | CHA ENGT : PEY OPOL | H: 5 ami | 0 am no a | ino cid | | S | | | | | |
| 45 | | | (mi) | | | E DH | | | | EQ I | מנו כ | : 51. | 9: | | | |
| | Ala 1 | Leau | Thr | Arg | Ile 5 | Fro | Pro | Эгу | Aup | Trp 10 | Val | :1- | Aun | Val | Thr 15 | Ala |
| 50 | Val | Ser | Phe | Ala 20 | Gly | Lys | Thr | Thr | Ala 25 | Arg | Phe | Phe | Xaa | His 30 | Ser | Ser |
| | Pro | Pro | Ser | Leu | 917 | Αερ | Gln | Ala | Ara | Thr | Asp | Pro | Gly | His | Gln | Arr |

| | (2) INFORMATION FOR SEQ ID NO: 521: | |
|----|--|----------------|
| 5 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 27 amino acids (B) TYPE: amino acid (D) TOPOLCGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 521: | |
| 10 | Leu Gln Glu Val Asn Ile Thr Leu Pro Glu Asn Ser Val Trp Tyr Glu 1 5 10 15 | |
| | Arg Tyr Lys Phe Asp Ile Pro Val Phe His Leu 20 25 | |
| 15 | | |
| | (2) INFORMATION FOR SEQ ID NO: 522: | |
| 20 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 110 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 522: | |
| 25 | Met Gln Gly Ser Gly Ser Gln Phe Arg Ala Cys Leu Leu Cys Leu Cys 1 5 10 15 | |
| 30 | Phe Ser Cys Pro Cys Ser Pro Gly Gly Pro Arg Trp Asn Ser Arg Gln 20 25 30 | |
| 50 | Gly Gly Arg Arg Phe Pro Lys Thr Cys Arg Ala Ile Ser Gln Asn Leu 35 40 45 | |
| 35 | Val Phe Lys Tyr Lys Thr Phe Cys Pro Val Arg Tyr Met Gln Pro His 50 55 60 | |
| | Arg Ser Ser Leu Cys Leu His Phe Thr Ser Tyr Val Phe Ile Leu Ser 65 70 75 80 | |
| 40 | Thr Trp Gly Ser Leu Arg Thr Tyr Ser Thr Asp Leu Lys Lys Lys B5 90 95 | |
| 45 | Lys Asn Ser Arg 3ly Gly Pro Val Pro Ile Arg Pro Lys Ser 100 105 110 | |
| | (2) INFORMATION FCR SEQ ID NO: 523: | |
| 50 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 99 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: double | |
| | (D) TOPOLOGY: linear | |
| 55 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 523: | , . + . |
| | TAGCATGTAG CCAGTCGAAT AACNTATAAG GACAAAGTGG AGTCCACGCG TGCGGCCGTC | 60 |
| 60 | TAGACTAGTG GATCCCCCGG CTGCAGGATT CGGCACGAG | 99 |

| 5 | (2) INFORMATION FOR SEQ ID NO: 524: |
|-----|--|
| 10 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 51 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 524: |
| 15 | Met Gin Gly Ser Gly Ser Gln Phe Arg Ala Cys Leu Leu Cys Leu Cys 1 5 10 15 |
| 15 | Phe Ser Cys Pro Cys Ser Pro Gly Gly Pro Arg Trp Asn Ser Arg Gln 25 30 |
| 20 | GIV GIV Arg Arg Phe Pro Lys Thr Cys Arg Ala Ile Ser Gln Asn Lou 35 40 45 |
| | Val Phe Lys SO |
| 25 | |
| | (2) INFORMATION FOR SEQ ID NO: 525: |
| 30 | (1) CEQUENCE CHARACTERISTICS: (A) LENGTH: 54 amino acids (B) TYPE: amino acid (C) TOPOLOGY: linear (X1) SEQUENCE DESCRIPTION: SEQ ID NO: 525: |
| 35 | Pro Val Arg Tyr Met Gln Pro His Arg Ser Ser Leu Cys Leu His Phe 1 5 10 15 |
| 40 | Thr Ser Tyr Vil the lie Leu Ser Thr Trp Gly Ser Leu Arg Thr Tyr 20 25 30 |
| 40 | for Thr Amp Leu Lys Lys Lys Lys Lys Ash Sor Arg Sty Sty Pro Val 15 40 45 |
| 45 | Pro Ile Arm Pro Dyd Ger 50 |
| 50 | (2) INFORMATION FOR SEQ ID NO: 526: |
| | (i) SECUENCE CHARACTERISTICS: (A) DENGTH: 38 amino acids |
| | (x,y) + (x |
| 6.0 | The second of th |

| | | | | 20 | | | | | 25 | | | | | 30 | | | | |
|----|-------------------|------------|-------------|-------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------|-----------|-------------|------------|------------|------------|-------------|------------|---|---|
| 5 | Pro | Lys | Tyr . 35 | Ala | Gly | Leu | | | | | | | | | | | | |
| | (2) | INFO |)RMAT | NCI | FOR | SEO | ID N | 0: 5 | 27: | | | | | | | | | |
| 10 | , - , | | (i) S | EUQES () () () | ENCE A) LI B) T D) T | CHAF ENGTH YPE: OPOLO | CACTE H: 16 amir DGY: | RIST 51 am no ac line | PICS: mino cid car | acio | | | | | | | | |
| 15 | Met 1 | | (xi) Arg | | | | | | | | | | | Ser | Gly 15 | Ala | | |
| 20 | Ser | Arg | Asn | Ala 20 | Asp | Thr | Ala | Ala | Arg 25 | Gln | Ser | Thr | Cys | Ser 30 | Ser | His | | |
| | Arg | Pro | Pro 35 | Gly | Lys | Ile | Pro | Ser 40 | Leu | Gly | Pro | Arg | Arg 45 | Хаа | Pro | Gly | | |
| 25 | Cys | Xaa 50 | Ser | Val | Pro | Ser | Ser 55 | Arg | Gly | Glu | Gln | Ser 60 | Thr | Gly | Ser | Pro | | |
| 30 | Ala 65 | Ala | Pro | Arg | Суs | Gly 70 | Arg | Arg | Asp | Ala | His 75 | Arg | Gly | Leu | Pro | Gly 80 | | |
| | Gly | Ala | Ala | Met | Thr 35 | Pro | Gly | Asp | Thr | Trp 90 | Ala | Ser | Phe | Asn | Pro 95 | Arg | | |
| 35 | Ala | Gly | His | Ser 100 | | Ser | Gln | Gly | Glu 105 | Gly | Gln | Glu | Ser | Ser 110 | | Ala | | |
| | Ser | Arg | Gln 115 | Asp | Arg | His | Pro | Val 120 | Ser | His | Trp | Val | Glu 125 | Arg | Gln | Arg | | |
| 40 | Glu | Ala 130 | Trp | Gly | Ala | Fro | Arg 135 | Ser | Ser | Ser | Ala | Gly 140 | | Val | Lys | Val | | |
| 45 | Ala 145 Ala | | Thr | | · Glu | | | | | | | | · Lys | Thr | Gly | Lys 160 | | |
| 50 | (2) | INI | FORMA | MOITA | 1 FOF | R SEÇ |) ID | NO: | 528: | | | | | | | | | |
| 55 | | | | | (B) (D) | LENG TYPE TOPO | TH: { : am: LOGY | 38 ar ino a : lir | mino acid near | aci | ds ID NO | D: 5 | 28: | | | | - | - |
| 60 | | s Se: | r Gly | / Ala | | r Arg | g Asr | a Ala | a Asp | Thi | | a Ala | a Arg | g Gli | n Ser 19 | Thr | | |

| | Cys | Ser | Ser | His 20 | Arg | Pro | Pro | Gly | 1.ys 25 | He | Pro | Ser | Leu | 30 GIÀ | Pro | Arq |
|------------|-----------|-------------|-----------|-----------|-------------------------|-----------------------|----------------------|------------------------|-----------------------|-------|------------|---------------|-----------|-----------|-------|-----------|
| 5 | Arg | Xaa | Pro 35 | Gly | Сув | Xaa | Ser | Val 40 | Pro | Ser | Ser | Arg | Gly 45 | Glu | Gln | Ser |
| 10 | Thr | Gly 50 | Ser | Pro | Ala | Ala | Pro 55 | Arg | Cys | Gly | Arg | Arg 60 | Asp | Ala | His | Arg |
| 1 () | Gly 65 | Leu | Pro | Gly | Gly | Ala 70 | Ala | Met | Thr | Pro | Gly 75 | Asp | Thr | Trp | Ala | Ser 80 |
| 15 | Phe | Asn | Pro | Arg | Ala 85 | Gly | His | Ser | | | | | | | | |
| 20 | (2) | INF | | | ENCE A) L | CHA ENGI | RACT 'H: 5 | ERIS | TICS iino | | l s | | | | | |
| 25 | | | (xi) | | D) I | OPOL | .OGY : | no a lin PTIO | ear | EO I | D NO | ı: 52 | 9: | | | |
| <u>-</u> ' | Gln | Gly | | Gly | | | | | | | | | | Asp | Arg | His |
| 20 | 1 | | | | 5 | | | | | 10 | - 3 | - 3 | | | 15 | _ |
| 30 | Pro | Val | Ser | His 20 | | 'Val | Glu | . Arg | Gln 25 | Arg | Glu | Ala | Trp | 30 G1A | Ala | Pro |
| 35 | Arg | Ser | Ser 35 | | Ala | Gly | Gly | Val 40 | | Val | Ala | Ala | Thr 45 | | Glu | Arq |
| | Glu | Pro 50 | | Phe | · Lys | Ile | Lys 55 | | Gly | Lys | Ala | | | | | |
| 40 | (2) | INF | G114O. | ATION | I FOR | . SEQ |) ID | : OM | 530: | | | | | | | |
| 45 | | | | | (A) : (B) : (D) : | LENG FYPE FOPO! | PH: : am LCYCY | 235 d ino d : li | amino acid near | os c | |): 5 1 | 30: | | | |
| 50 | Met | | r Pro | o Arg | j Tyr | | ∍ Gly | / Gly | / Pro | Arg | | Pro |) Let | ı Ard | 116 | Pro |
| | Asr | n Glr | n Ala | ı Let | ı Gly | / Gly | / Val | l Pro | o Gly | | e Glr | n Pro | o Let | : Let | | Ser |
| 60 | Mest | : 31: 5: | | r Med | i Om | 112 | * 149 51 | | : 31; | y Med | r Ma | i si | | . 445 | : i i | ÷.1. |

 $-i\partial_{\alpha}^{A}=-i\partial_$

| | Asn 65 | Tyr | Gly | Gly | Ala | Met 70 | Arg | Pro | Pro | Leu | Asn 75 | Ala | Leu | Gly | Gly | Pro 80 |
|----|------------|------------|------------|--------------|------------|----------------------|---------------------|--------------------|----------------------|------------|------------|------------|------------|------------|------------|-------------|
| 5 | Gly | Met | Pro | Gly | Met 85 | Asn | Met | Glγ | Pro | Gly 90 | Gly | Gly | Arg | Pro | Trp 95 | Pro |
| | Asn | Pro | Thr | Asn 100 | Ala | Asn | Ser | Ile | Pro 105 | Tyr | Ser | Ser | Ala | Ser 110 | Pro | Gly |
| 10 | Asn | Tyr | Val 115 | | Pro | Pro | Gly | Gly 120 | Gly | Gly | Pro | Pro | Gly 125 | Thr | Pro | Ile |
| 15 | Met | Pro 130 | | Pro | Ala | Asp | Ser 135 | Thr | Asn | Ser | Gly | Asp 140 | | Met | Tyr | Thr |
| 13 | Leu 145 | Met | Asn | Ala | Val | Pro 150 | Pro | Gly | Pro | Asn | Arg 155 | | Asn | Phe | Pro | Met 160 |
| 20 | Gly | Pro | Gly | Ser | Asp 165 | | Pro | Met | Gly | Gly 170 | | Gly | Gly | Met | Glu 175 | |
| | His | His | Met | . Asn 180 | | Ser | Leu | Gly | Ser 185 | | Asp | Met | Asp | Ser 190 | | Ser |
| 25 | Lys | Asr | Ser 195 | | Asn | Asn | Met | Ser 200 | | Ser | Asn | Gln | Pro 205 | | Thr | Pro |
| 30 | Arg | Asr 210 | | o Gly | / Glu | Met | Gly 215 | | Asn | . Phe | . Leu | Asn 220 | |) Phe | : Gln | ser Ser |
| | Glu 225 | | Tyr | r Sei | r Pro | 230 | | . Thr | . Met | Ser | Val 235 | | | | | |
| 35 | (2) | 117 | FORM | 101 TA | V FOR | R SEQ |) ID | NO: | 531: | | | | | | | |
| 40 | | | | | (B) | LENG TYPE TOPO | TH: : am LCGY | 114 ino : li | amin acid near | o ac | | O: 5 | 31: | | | |
| 45 | | t Se l | r Pr | o Ar | | r Pro | o Gly | y Gly | y Pro | o Arg | | o Pro | o Le | u Ar | g Ile 1 | e Pro 5 |
| | Ası | n Gl | n Al | | u Gl | y Gl | y Vai | l Pr | o Gl ₃ | | r Gli | n Pr | o Le | u Lei 3 | | o Ser |
| 50 | Gl | y Me | | p Pr 5 | o Th | r Ar | g Glı | n Gl: | | y Hi | s Pr | o As: | n Me 4 | | y Gl | y Pro |
| 55 | Me | | n Ar 0 | g Me | t Th | r Pr | o Pr 5 | | g Gl | у Ме | t Va | 1 Pr 6 | | u Gl | y Pr | o Gln |
| 23 | | n Ty 5 | r Gl | y Gl | y Al | a Me 7 | | g Pr | o Pr | o Le | | n Al 5 | a Le | eu Gl | y Gl | y Pro 80 |
| 60 | Gl | у Ме | et Pr | o Gl | | t As | n Me | t Gl | y Pr | | y G1 0 | y Gl | y Ar | g Pr | | p Pro 15 |

The second section of the second

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Ash Pro Thr Ash Ala Ash Ser Ile Pro Tyr Ser Der Ala Ser Pro Gly
                100 105
5
     Asn Tyr
10
     (2) INFORMATION FOR SEQ ID NO: 532:
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 81 amino acids
                   (B) TYPE: amino acid
15
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 532:
     Leu Asn Ala Leu Gly Gly Pro Gly Met Pro Gly Met Asn Met Gly Pro
20
     Gly Gly Gly Arg Pro Trp Pro Asn Pro Thr Asn Ala Asn Ser Ile Pro
                        25
     Tyr Ser Ser Ala Ser Pro Gly Asn Tyr Val Gly Pro Pro Gly Gly Gly
25
                               40
     Gly Pro Pro Gly Thr Pro Ile Met Pro Ser Pro Ala Asp Ser Thr Asn
30
      Ser Gly Asp Asn Met Tyr Thr Leu Met Asn Ala Val Pro Pro Gly Pro
                 70
     Asn
35
      (2) INFORMATION FOR SEQ ID NO: 533:
40
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 70 amino acids
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SUQUENCE DESCRIPTION: SEQ ID NO: 533:
45
      Gly Pro Met Gly Gly Leu Gly Gly Met Glu Ser His His Met Ach Gly
                                 10
      Ser Leu Gly Ser Gly Asp Met Asp Ser Ile Ser Lys Asn Ser Pro Asn
50
             20
      Ash Met Ser Leu Ser Ash Gin Pro Gly Thr Pro Arg Asp Asp Gly Glu
     Then Met Then Met Jer Val
60
```

| | (2) INFORMATION FOR SEQ ID NO: 534: |
|-----|---|
| 5 | (i) SEQUENCE CHARACTERISTICS: (A) LEWSTH: 14 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 10 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 534: Thr Cys Glu His Ser Ser Glu Ala Lys Ala Phe His Asp Tyr |
| 15 | 1 5 10 |
| 15 | (2) INFORMATION FOR SEQ ID NO: 535: (i) SEQUENCE CHAPACTERISTICS: |
| 20 | (A) LENGTH: 59 amino acids (B) TYPE: amino acid (D) TOFOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 535: |
| 25 | Gln Ala Phe Val Leu Ser Asp Leu Leu Leu Ile Phe Ser Pro Gln 1 5 10 15 |
| | Met Ile Val Gly Gly Arg Asp Phe Leu Arg Pro Leu Val Phe Pro 20 25 30 |
| 30 | Glu Ala Thr Leu Gln Ser Glu Leu Ala Ser Phe Leu Met Asp His Val 35 40 45 |
| 35 | Phe Ile Gln Pro Gly Asp Leu Gly Ser Gly Ala 50 55 |
| 4.0 | (2) INFORMATION FOR SEQ ID NO: 536: |
| 40 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 43 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 536: |
| 45 | Ala Cys Ser Tyr Leu Leu Cys Asn Pro Glu Phe Thr Phe Phe Ser Arg 1 5 10 15 |
| 50 | Ala Asp Phe Ala Arg Ser Gln Leu Val Asp Leu Leu Thr Asp Arg Phe 20 25 30 |
| 55 | Gln Gln Glu Leu Glu Leu Leu Gln Val Gly 35 40 |
| 55 | (2) INFORMATION FOR SEQ ID NO: 537: |
| | (i) SEQUENCE CHARACTERISTICS: |
| 60 | (A) LENGTH: 35 amino acids |

| | (B) TYPE: amino acid (D) TOPCLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 537: |
|-----|--|
| 5 | Gln Lys Gln Leu Ser Ser Leu Arg Asp Arg Met Val Ala Phe Cys Glu i 5 10 15 |
| 10 | Leu Cys Gln Ser Cys Leu Ser Asp Val Asp Thr Glu Ile Gin Glu Gln 20 25 30 Val Ser Thr 35 |
| 15 | (2) INFORMATION FOR SEQ ID NO: 538: |
| 20 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 27 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 538: |
| 25 | Gln Val Ile Leu Pro Ala Leu Thr Leu Val Tyr Phe Ser Ile Leu Trp 1 5 10 15 |
| 2.0 | Thr Leu Thr His Ile Ser Lys Ser Asp Ala Ser 20 25 |
| 30 | |
| 35 | (2) INFORMATION FOR SEQ ID NO: 539: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 539: |
| 40 | Ser Thr His Asp Leu Thr Arg Trp Glu Leu Tyr Glu Pro Cys Cys Gln 1 5 10 15 |
| 45 | Leu Leu Gln Lys Ala Val Asp Thr Gly Xaa Val Pro His Gln Val 20 25 30 |
| | (2) INFORMATION FOR SEQ ID NO: 540: |
| 50 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 106 amino acids (B) TYPE: amino acid |
| | |
| 60 | Lou Pro Leu Gly Ger Ser Ar; Pro Ala Pro Ali Pro Ar; Hib Ard Glu |

eN , + − + A − − mid m (A −

| | His | Glu | His 35 | Gly | His | Gln | Ala | Arg 40 | Pro | Pro | Arg | Leu | Leu 45 | Xaa | Thr | Ser |
|------|------------|------------|------------|------------|------------|--------------|---------------|--------------|--------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Leu | Met 50 | Pro | Leu | Ser | Thr | Pro 55 | Ala | Ala | Ala | Gln | Leu 60 | Leu | Trp | Thr | Gln |
| 10 | Leu 65 | Thr | Pro | Met | Gly | Gly 70 | Arg | Pro | Gly | Gly | Arg 75 | His | Ser | Pro | Pro | Thr 80 |
| • ** | Leu | His | Thr | Gly | Pro 85 | Arg | Ala | Leu | Pro | Pro 90 | Gly | Pro | Pro | His | Pro 95 | Ser |
| 15 | Leu | His | Val | Ala 100 | Ala | Leu | Ser | Leu | Leu 105 | Arg | | | | | | |
| 20 | (2) | | ORMA: | SEQU. | ENCE | CHAI ENGT | RACTI H: 2 | ERIS 07 a | rics mino | : aci | ds | | | | | |
| 25 | | | (xi) | (| E) T | OPOL | OGY : | lin | ear | EQ II | ОИС | : 54. | 1: | | | |
| | Glu 1 | Gln | Val | Leu | Ala 5 | Leu | Leu | Trp | Pro | Arg 10 | Phe | Glu | Leu | Ile | Leu 15 | Glu |
| 30 | Met | Asn | Val | Gln 20 | 3er | Val | Arg | Ser | Thr 25 | Asp | Pro | Gln | Arg | Leu 30 | Gly | Gly |
| 35 | Leu | Asp | Thr 35 | Arg | Pro | His | Tyr | Ile 40 | Thr | Arg | Arg | Tyr | Ala 45 | Glu | Phe | Ser |
| | Ser | Ala 50 | Leu | Val | Ser | Ile | Asn 55 | Gln | Thr | Ile | Pro | Asn 60 | Glu | Arg | Thr | Met |
| 40 | Gln 65 | Leu | Leu | Gly | Gln | Leu 70 | Gln | Val | Glu | Val | Glu 75 | Asn | Phe | Val | Leu | Arg 80 |
| | Val | Ala | Ala | Glu | Phe 85 | Ser | Ser | Arg | Lys | Glu 90 | Gln | Leu | Val | Phe | Leu 95 | Ile |
| 45 | Asn | Asn | Tyr | Asp 100 | Met | Met | Leu | Gly | Val 105 | Leu | Met | Glu | Arg | Ala 110 | Ala | Asp |
| 50 | Asp | Ser | Lys 115 | Glu | Val | Glu | Ser | Phe 120 | Gln | Gln | Leu | Leu | Asn 125 | Ala | Arg | Thr |
| | Gln | Glu 130 | Phe | Ile | Glu | Glu | Leu 135 | Leu | Ser | Pro | Pro | Phe 140 | Gly | Gly | Leu | Val |
| 55 | Ala 145 | Phe | Val | Lys | Glu | Ala 150 | Glu | Ala | Leu | Ile | Glu 155 | Arg | Gly | Gln | Ala | Glu 160 |
| | Arg | Leu | Arg | Gly | Glu 165 | Glu | Ala | Arg | Val | Thr 170 | Gln | Leu | Ile | Arg | Gly 175 | Phe |
| 60 | Gly | Ser | Ser | Trp | Lys | Ser | Ser | Val | Glu | Ser | Leu | Ser | Gln | Asp | Val | Met |

| | | | | 100 | | | | | 105 | | | | | 190 | | |
|----|------------|-----------|------------|-------------|-----------------------|------------------------------|-----------------------|------------------------|--------------------|-----------|-------------------|-------------|------------|------------|-------------|-------------|
| | | | | 180 | | | | | 185 | | | | | | | |
| 5 | Arg | Ser | Phe 195 | Thr | Asn | Phe . | | Asn 200 | Gly | Thr | Ser | Ile | 11e 205 | Gln | Gly | |
| | (2) | INF | DRMAT | CION | FOR | SEQ | ID N | 10: 5 | 42: | | | | | | | |
| 10 | | | (i) : | (; (; | A) LI B) T D) T | ENGTI YPE : OPOLO | I: 1. amii XGY: | 10 ar no ao line | mino cid ear | acio | | | | | | |
| 15 | | | (xi) | SEQU | JENC: | E DES | SCF.II | IOI TY | 4: SI | EQ II | OMO. | : 54. | 2: | | | |
| | Ala 1 | Leu | Leu | Lys | Tyr 5 | Arg | Phe | Phe | Tyr | Gln 10 | Phe | Leu | Leu | Gly | Asn 15 | Glu |
| 20 | Arg | Ala | Thr | Ala 20 | Lys | Ğlu | Ile | Aug | Авр 25 | Glu | $T_{\mathcal{T}}$ | Val | Clu | Thr 30 | Leu | Ser |
| | Lys | Ile | Tyr 35 | Leu | Ser | Tyr | T_f T | Arg 40 | Ser | Τγτ | Leu | Gly | Arg 45 | Leu | Met | Lys |
| 25 | Val | Gln 50 | Tyr | Glu | Glu | Val | Ala 55 | Glu | Lys | Asp | Asp | Leu 60 | Met | Gly | Val | Glu |
| 20 | Asp 65 | Thr | Ala | Lys | Lys | Gly 70 | Phe | Xaa | Ser | Lys | Pro 75 | Ser | Leu | Arg | Ser | Arg 80 |
| 30 | Asn | Thr | Ile | Phe | Thr 85 | Leu | Gly | Thr | Arg | Gly 90 | Ser | Val | Ile | Ser | Pro 95 | |
| 35 | Glu | Leu | ı Glu | Ala 100 | | Ile | Leu | Val | Pro 105 | His | Thr | Ala | Gln | Arg 110 | | |
| 40 | (2) | ItH | FORMA | SEQU | JENCE (A) I | SEQ CHA LENGI LYPE: | RACT | ERIS 97 ar | STICS mino | | ds. | | | | | |
| 45 | | | (x1 | | (D) 7 | ropoi E DE | JOGY | lir | near | EQ I | [D 11C |): 50 | 13: | | | |
| | Glu 1 | | n Arg | g Tyr | Pro | | Glu | ı Ala | ı Lew | Phe 10 | | , Ser | - Gln | n His | : Tyr 15 | Xaa S |
| 50 | Let | ı Le | u Asp | o Asr 20 | | : Cys | : Arg | r Glu | יים מרקים ו | | ı Phe | ı 11e | e Cyro | Gh 30 | | 2 Phe |
| | | | | | | | | | | | ٠., | *1: | | | *.*.;· + | |
| | | | | | | | | | | _ | | | | | 1 - | , , |
| 60 | 23/3 73 | | r As | p Al. | a II. | a Ala 70 | | r Elli- | er Leit | : 7: | 3 1.e | - 111. S | . 11. | | L 10F-3 | i Aid Qo |

 $\label{eq:continuous_problem} A_{a} = \{ (a_{a}, b_{b}) \mid a_{b} \in A_{a} \} \quad \text{and} \quad a_{b} \in A_{a}.$

```
Phe Arg Asn Ile Ala Ala Lys Arg Asp Val Pro Ala Leu Asp Arg Tyr
                             90 95
5
     Trp
10
     (2) INFORMATION FOR SEO ID NO: 544:
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 26 amino acids
                  (B) TYPE: amino acid
15
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 544:
     Gly Gly Leu Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu
                                      10
20
     Phe Ser Ser Ala Leu Val Ser Ile Asn Gln
                20 25
25
     (2) INFORMATION FOR SEQ ID NO: 545:
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 20 amino acids
30
                   (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 545:
     Ser Arg Lys Glu Gln Leu Val Phe Leu Ile Asn Asn Tyr Asp Met Met
35
                                      10
     Leu Gly Val Leu
40
      (2) INFORMATION FOR SEQ ID NO: 546:
            (i) SEQUENCE CHARACTERISTICS:
45
                  (A) LENGTH: 411 amino acids
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 546:
50
      Ala Leu Leu Lys Tyr Arg Phe Phe Tyr Gln Phe Leu Leu Gly Asn Glu
      Arg Ala Thr Ala Lys Glu Ile Arg Asp Glu Tyr Val Glu Thr Leu Ser
55
      Lys Ile Tyr Leu Ser Tyr Tyr Arg Ser Tyr Leu Gly Arg Leu Met Lys
              35 40 45
     Val Gln Tyr Glu Glu Val Ala Glu Lys Asp Asp Leu Met Gly Val Glu
60
                  55
```

| | App 65 | Thr | Ala | Lys | Lys | Gly 76 | Phe | Хаа | Ser | Lys | Pro == | Ser | Leu | Arg | Ser | A r 7 80 |
|-----|------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|--------------------|
| 5 | Asn | Thr | Ile | Ehe | Thr 85 | Leu | Gly | Thr | Arg | Gly 95 | Ser | Val | Il÷ | Sər | Pers Pil | īnr |
| 1.0 | Glu | Leu | Glu | Ala 100 | Pro | Il• | Leu | Val | Pro 105 | His | 71. | Ala | 61m | 123 110 | Zia | glu |
| 10 | Gln | Arg | Tyr 115 | Pro | Phe | Glu | Ala | Leu 120 | Phe | Arg | Ser | pln | His 115 | Tyr | Kaa | Let |
| 15 | Leau | Asp 130 | | Ser | Cys | Aag | Glu 135 | Tyr | Leu | Phe | Ile | 0ys 140 | Gl. | Phe | Pse | Val |
| | Val 145 | Ser | Gly | Pro | Хаа | Ala 150 | His | Asp | Leu | Phē | His 155 | Ala | V11 | Met | G.7 | A#9 160 |
| 20 | Thr | Lea | Set | Met | Thr 165 | Leu | Lys | His | Leu | Asp 170 | Ser | Tyr | Leu | Ala | Asp 115 | Cys |
| 25 | Tyr | Asp | Ala | 11e 180 | Ala | Val | Phe | Leu | Cys 185 | Ile | His | 119 | Val | 190 190 | AZŞ | Phe |
| | Arg | Asn | . 11e 195 | | Ala | Lys | Arg | Asp 200 | Val | Pro | Als | Leu | Ast 201 | ÷rg | 7.72 | Teg |
| 30 | Glu | Gln 210 | | I.eu | Ala | Leu | Leu 215 | | Pro | Эхэ | Phe | 31u 220 | | Sle | i.eu | Glu |
| | Met 225 | | ı Val | Gln | Ser | Val 230 | | Ser | Thr | qaA. | Pro 235 | | A# 9 | læu | Gly | 1917 141 |
| 35 | Leu | . Asp | > Thr | · Arg | Pro 245 | | Tyr | fle | Thr | Arg 250 | Arg | Tyr | Ala | . Glu | 266 266 | Ser. |
| 40 | | | | 260 | t | | | | 265 | , | | | | 270 | • | : Met |
| | | | 2.75 | ¥ | | | | 280 |) | | | | 28 | • | | : Arg |
| 45 | | 29 | 0 | | | | 2049 | 5, | | | | 300 | | | | ı Die |
| | 309 | ò | | | | 316 | 9 | | | | 315 | 5 | | | | a Asp 320 |
| 50 | | | | | 325 | 5 | | | | 334 | Э | | | | 33 | |
| | | | * . | | | . • • | ٠. | • | | er See | 114 | | | . = . | | er tite |
| | | | | | | | | | | | | | | | | |
| 60 | Ai | ⊄ Le | | a Jil | y 31 | 1 114 | u Al | | 1 7 1 | l In | r 31 | n le ia | u Il n | | : | 2 G.S. |

| | Gly 385 | Ser | Ser | Trp | Lys | Ser 390 | Ser | Val | Glu | Ser | Leu 395 | Ser | Gln | Asp | Va! | Met 400 |
|----|------------|------------|----------------|------------|----------------------|-----------------------|---------------------|---------------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Arg | Ser | Phe | Thr | Asn 405 | Phe | Arg | Asn | Gly | Thr 410 | Ser | | | | | |
| 10 | (2) | INF | OR MA T | rion | FOR | SEQ | ID 1 | 1 0: 5 | 547: | | | | | | | |
| 15 | | | | (| A) L B) T D) T | ENGT YPE : CPCL | H: 3 ami OGY: | 03 a no a lin | mino cid ear | aci | | : 54 | 7: | | | |
| 20 | Tyr 1 | Glu | Gly | Lys | Glu 5 | Phe | Asp | Tyr | Val | Phe 10 | Ser | Ile | Asp | Val | Asn 15 | Glu |
| | Gly | Gly | Pro | Ser 20 | Тут | Lys | Leu | fro | Tyr 25 | Asn | Thir | Ser | Asp | Asp 30 | Pro | Trp |
| 25 | Leu | Thr | Ala 35 | Tyr | Asn | Phe | Leu | Gln 40 | Lys | Asn | Asp | Leu | Asn 45 | Pro | Met | Phe |
| | Leu | Asp 50 | Gln | Val | Ala | Lys | Phe 55 | Ile | Ile | qzA | Asn | Thr 60 | Lys | Gly | Gln | Met |
| 30 | Leu 65 | Gly | Leu | Gly | Asn | Pro 70 | Ser | Phe | Ser | qzA | Pro 75 | Phe | Thr | Gly | Gly | Gly 80 |
| 35 | Arg | Tyr | Val | Pro | Gly 85 | Ser | Ser | Gly | Ser | Ser 90 | Asn | Thr | Leu | Pro | Thr 95 | Ala |
| | Asp | Pro | Phe | Thr 100 | Gly | Ala | Gly | Arg | Tyr 105 | Val | Pro | Gly | Ser | Ala 110 | Ser | Met |
| 40 | Gly | Thr | Thr 115 | Met | Ala | Gly | Val | Asp 120 | Pro | Phe | Thr | Gly | Asn 125 | Ser | Ala | Tyr |
| | Arg | Ser 130 | Ala | Ala | Ser | Lys | Thr 135 | Met | Asn | Ile | Tyr | Phe 140 | Pro | Lys | Lys | Glu |
| 45 | Ala 145 | Val | Thr | Phe | Asp | Gln 150 | Ala | Asn | Pro | Thr | Gln 155 | Ile | Leu | Gly | Lys | Leu 160 |
| 50 | Lys | Glu | Leu | Asn | Gly 165 | Thr | Ala | Pro | Glu | Glu 170 | Lys | Lys | Leu | Thr | Glu 175 | Asp |
| | Asp | Leu | Ile | Leu 180 | Leu | Glu | Lys | Ile | Leu 185 | Ser | Leu | Ile | Суѕ | Asn 190 | Ser | Ser |
| 55 | Ser | Glu | Lys 195 | Pro | Thr | Val | Gln | Gln 200 | Leu | Gln | Ile | Leu | Trp 205 | Lys | Ala | Ile |
| | Asn | Cys 210 | Pro | Glu | Asp | Ile | Val 215 | Phe | Pro | Ala | Leu | Asp 220 | Ile | Leu | Arg | Leu |
| 60 | Ser | Ile | Lys | His | Pro | Ser | Val | Asn | Glu | Asn | Phe | Cys | Asn | Glu | Lys | Glu |

| | 225 | | | | | 230 | | | | | 235 | | | | | 240 |
|----------|-----------------|------------|----------------|---|--------------------------------------|----------------------|--------------------------|--|--|------------------|-------------------|------------|-------------------------|----------------------|------------|-----|
| e | Gly | Ala | Gln | Phe | Ser 0 4 5 | Ser | His | Leu | Il∵ | Asn 250 | Leu | Leu | Apn | Pro | Lys 255 | Gly |
| 5 | Lys | Pro | Ala | Asn 260 | Gln | Leu | Lêu | Ala | Leu 265 | Arg | Thr | Phe | Cys | Apn 270 | Cys | Phe |
| 10 | Val | Gly | Gln 275 | Ala | Gly | Gln | Lys | Leu 280 | Met | Met | Ser | Gln | Arg 285 | Glu | Ser | Leu |
| | Mot | Ser 296 | His | Ala | Ile | Glu | Leu 295 | Lys | Ser | Gly | Ser | Asn 300 | Lys | Asn | Ile | |
| 15 | | | | | | | | | | | | | | | | |
| | (2) | INF | DEFEN | rion | POR | SEQ | ID I | 10: 5 | 543: | | | | | | | |
| 20 | | | | (: | MICE A) L P) I D) I UENC | ENGT YPE: OPOL | H: 1 ami OGY: | 3 am no a lin | ino cid ear | acid | | : 54 | 8: | | | |
| 25 | His 1 | Il÷ | Ala | Leu | āla ņ | Thr | Leu | Ala | Leu | Asn 10 | Tyr | Ser | Val | Cys | Phe 15 | His |
| 30 | Lys | Anp | | | | | | | | | | | | | | |
| | | | | | | | | | - •0 | | | | | | | |
| 35 | (2) | IIIF | | SEÇT | FOR JEMCF (A) I | CHA | RACT H: 4 | ERIS 19 an | TICS nino | | ls | | | | | |
| • • | | | (xi) | | (15) T Orașio | | | lir | iear | EQ I | D NO | : 54 | 19: | | | |
| 40 | His 1 | Asn | | SE, | (1901) Juranj | E DE | SCRI | lir PTIC | near M: S | | . Ser | | | Ser | Thr 15 | Ile |
| 40 45 | 1 | | ı Il⊷ | SE(| (19 1 WEIN Gly 5 | E DE | SCRI Ala | lir PTIC Gln | near M: S .Cys | Leu 10 Thr | . Ser | Leu | ı Il∈ | | 15 Val | |
| | t Len | Gh: | i Il∈ i Val | SEQ Substitution of the substitution of the su | (19 1 OURNO 5 Gly 5 Gln | E DE Lys Asp | SCRI Ala Leu | lir PTIC Gln | near MN: S Cys : Ala : OS | Leu 10 Thr | Ser Phe | Leu Arc | i Ile | i Leu 30 i Leu | Į5 Val | |
| | t Len | Gh: | i Il- | SEQ Substitution of the substitution of the su | (19 1 OURNO 5 Gly 5 Gln | E DE Lys Asp | SCRI Ala Leu | lir PTIC Gln Glu Asp | near MN: S Cys : Ala : OS | Leu 10 Thr | Ser Phe | Leu Arc | i Ile g Leu . Glr | i Leu 30 i Leu | Į5 Val | Ala |
| 45 | l beu Leu | Gh: | i Il- | SEQ Substitution of the substitution of the su | (19 1 OURNO 5 Gly 5 Gln | E DE Lys Asp | SCRI Ala Leu | lir PTIC Gln Glu Asp | near MN: S Cys : Ala : OS | Leu 10 Thr | Ser Phe | Leu Arc | i Ile g Leu . Glr | i Leu 30 i Leu | Į5 Val | Ala |
| 45 | l beu Leu | Gh: | i Il- | SEC Substitution of the substitution of the su | (19 1 OURNO 5 Gly 5 Gln | E DE Lys : Asp | Ala Ala Leu Asp | lir PTIC Gln Glu Asp 40 | near Nn: S Cys Ala S S S S S S S | Leu 10 Thr | Ser Phe Ala | Leu Arc | i Ile g Leu . Glr | i Leu 30 i Leu | Į5 Val | Ala |

| | | (xi |) SEÇ | UENCE | E DES | CRIE | MOIT | 4: Si | EQ II | O NO: | : 550 |): | | | |
|-----|--------------|-------------|--------------|-----------------------|------------------------|----------------------|------------------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Leu Gl | ly Va | l Asp | Ser 5 | Gln | Ile | Lys | Lys | Tyr 10 | Ser | Ser | Val | Ser | Glu 15 | Pro |
| | Ala Ly | /s Va | l Ser 20 | Glu | Cys | Cys | Arg | Phe 25 | Ile | Leu | Asn | Leu | Leu 30 | | |
| 10 | (2) 11 | vFOPM | ATION | FOR | SEQ | ID 1 | IO: 5 | 551: | | | | | | | |
| 15 | | | (| A) L: B) T D) T | ENGTI YPE : OPOL | H: 4 ami: DGY: | 00 ar no ac line | mino cid ear | aci | | : 551 | 1: | | | |
| 20 | Tyr Gi | lu Gl | y Lys | Glu 5 | Phe | Asp | Tyr | Val | Phe 10 | Ser | Ile | Asp | Val | Asn 15 | Glu |
| | Gly G | ly Pr | o Ser 20 | īVr | Lys | Leu | Pro | Tyr 25 | Asn | Thr | Ser | Asp | Asp 30 | Pro | Trp |
| 25 | Leu Th | | a Tyr 5 | Asn | Phe | Leu | Gln 40 | Lys | Asn | Asp | Leu | Asn 45 | Pro | Met | Phe |
| 20 | Leu As | sp Gl 50 | n Val | Ala | Lys | Phe 55 | Ile | Ile | Asp | Asn | Thr 60 | Lys | Gly | Gln | Met |
| 30 | Leu G | ly Le | u Gly | Asn | Pro 70 | Ser | Phe | Ser | Asp | Pro 75 | Phe | Thr | Gly | Gly | Gly 80 |
| 35 | Arg T | yr Va | l Pro | Gly 85 | Ser | Ser | Gly | Ser | Ser 90 | Asn | Thr | Leu | Pro | Thr 95 | Ala |
| | Asp P | ro Ph | e Thr | | Ala | GĴĄ | Arg | Tyr 105 | Val | Pro | Gly | Ser | Ala 110 | Ser | Met |
| 40 | Gly T | hr Th | | Ala | Gly | Val | Asp 120 | Pro | Phe | Thr | Gly | Asn 125 | Ser | Ala | Tyr |
| 4.5 | Arg S | er Al 30 | a Ala | Ser | _ | | | | | _ | Phe | | Lys | Lys | Glu |
| 45 | Ala V 145 | al Th | ır Phe | Asp | Gln 150 | Ala | Asn | Pro | Thr | Gln 155 | | Leu | Gly | Lys | Leu 160 |
| 50 | Lys G | lu Le | eu Asn | 31y 165 | | Ala | Pro | Glu | Glu 170 | _ | Lys | Leu | Thr | Glu 175 | Asp |
| | Asp L | eu Il | e Leu 180 | | Glu | Lys | Ile | Leu 185 | | Leu | Ile | Cys | Asn 190 | Ser | Ser |
| 55 | Ser G | lu Ly 19 | | Thr | Val | Gln | Gln 200 | | Gln | Ile | Leu | Trp 205 | Lys | Ala | Ile |
| 60 | Asn C | ys Pr 10 | o Glu | . Asp | Ile | Val 215 | | Pro | Ala | Leu | Asp 220 | Ile | Leu | Arg | Leu |

| | Ser 225 | lle | Lys | His | Pro | Ser 130 | Val | Asn | Glu | Aan | Phe 235 | Cys | Asn | Glu | Lys | Glu 240 |
|----|------------|------------|------------|-------------|------------|------------|--------------|-------------------------|-------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Gly | Ala | Gln | Phe | Ser 245 | Ser | His | Leu | Ile | Aan 250 | Leu | Lêu | Asn | Pro | Lys 255 | Gly |
| | Lys | Pro | Ala | Asn 260 | Gln | Leu | Leu | Ala | Leu 265 | Arq | Thr | Phe | Cys | Asn 270 | Cys | Phe |
| 10 | Val | Gly | Gln 275 | Ala | Gly | Gln | Lys | Leu 280 | Met | Met | Ser | Gln | Arg 285 | Glu | Ser | Leu |
| 15 | Met | Ser 290 | His | Ala | Ile | Glu | Leu 295 | Lys | Ser | Gly | Ser | Asn 300 | Lys | Asn | Ile | His |
| | Il⊖ 305 | Ala | Leu | Ala | Thr | Leu 310 | Ala | Leu | Asn | Tyr | Ser 315 | Val | Cys | Phe | His | Lys 320 |
| 20 | Asp | His | Asn | Ile | Glu 325 | Gly | Lys | Ala | Gln | Cys 330 | Leu | Ser | Leu | Ile | Ser 335 | Thr |
| | Ile | Leu | Glu | Val 340 | Val | Gln | Asp | Leu | Glu 345 | Ala | Thir | Phe | Arg | Leu 350 | Leu | Val |
| 25 | Ala | Leu | Gly 355 | Thr | Leu | Ile | Ser | Asp 350 | Asp | Ser | Asn | Ala | Val 365 | Gln | Leu | Ala |
| 30 | Lys | Ser 370 | Leu | Gly | Val | Asp | Ser 375 | Gln | Ile | Lys | Lys | Tyr 380 | Ser | Ser | Val | Ser |
| | Glu 385 | Pro | Ala | Lys | Val | Ser 390 | Glu | Cys | Cys | Arg | Phe 395 | Ile | Leu | Asn | Leu | Leu 400 |
| 35 | | | | | | | | | | | | | | | | |
| | (2) | INF | ORMA' | TION | FOR | JEQ | ID | NO : | 552: | | | | | | | |
| 40 | | | (i) | | | | | EFIS | | | .ds | | | | | |
| 45 | | | (xi) | ! | (B) I | TYPE: | ami JCGY: | ino a : lir :PTIC | cid mear | | | : 55 | 2: | | | |
| | Tyr 1 | | Asn | | | Gly | | | | | Asp | | | Leu | His | Glu |
| 50 | | | Gin | . Arg 20 | Leu | | Lys | : Val | Val 25 | Thr | | Asn | His | Arg 30 | Ala | Leu |
| | | | | ۷. | | | | | است | | | | | ,,, | | |

Gln Cys lle Lou Arr Mot Cys Ser Thr Ile Mot Aon Leu Lou Ser Leu 60°

| | Ala | Asn | Glu | Азр | Ser 85 | Val | Pro | Gly | Ala | Asp 90 | Asp | Phe | Val | Pro | Val 95 | Leu |
|-----|-----------|------------|------------|------------|----------------------|----------------------|---------------------|-------------------------------------|--------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|
| 5 | Val | Phe | Val | Leu 100 | Ile | Lys | Ala | Asn | Pro 105 | Pro | Cys | Leu | Leu | Ser 110 | Thr | Val |
| 10 | Gln | Tyr | Ile 115 | Ser | Ser | Phe | Tyr | Ala 120 | Ser | Cys | Leu | Ser | Gly 125 | Glu | Glu | Ser |
| 10 | Tyr | Trp 130 | Trp | Met | Gln | Phe | Thr 135 | Ala | Ala | Val | Glu | | | | | |
| 15 | (2) | INF: | ofma | TION | FOR | SEQ | ID I | NO: 5 | 553: | | | | | | | |
| 20 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 1 ami OGY: | ERIS 44 a no a lin PTIO | mino cid ear | aci | | : 55 | 3: | | | |
| 25 | Tyr 1 | Pro | Asn | Gln | Asp 5 | Gly | Asp | Ile | Leu | Arg 10 | Asp | Gln | Val | Leu | His 15 | |
| | His | Ile | Gln | Arg 20 | Leu | Ser | Lys | Val | Val 25 | | Ala | Asn | His | Arg 30 | Ala | Leu |
| 30 | Gln | Ile | Pro 35 | | Val | Tyr | Leu | Arg 40 | | Ala | Pro | Trp | Pro 45 | Ser | Ala | Gln |
| 35 | Ser | Glu 50 | | i Azg | Thr | Ile | Ser 55 | Ala | Tyr | Lys | Thr | Pro 60 | Arg | Asp | Lys | Val |
| J J | Gln 65 | - | Ile | · Leu | Arg | Met 70 | - | Ser | Thr | Ile | Met 75 | | Leu | Leu | Ser | Leu 80 |
| 40 | Ala | Asn | Glu | ı Asp | Ser 85 | | Pro | Gly | Ala | Asp 90 | | Phe | Val | Pro | Val 95 | Leu |
| | Val | . Phe | val | Leu 100 | | Lys | Ala | Asn | Pro 105 | | Cys | Leu | Leu | Ser 110 | | Val |
| 45 | Gln | Tyr | Ile 115 | | Ser | Phe | Tyr | Ala 120 | | · Cys | Leu | Ser | Gly 125 | | Glu | ı Ser |
| 50 | Tyr | Trp 130 | |) Met | . Gln | . Phe | Thr 135 | | . Ala | Val | . Glu | Phe 140 | | : Lys | Thr | Ile |
| 55 | (2) | INF | FORMA | ATION | I FOR | R SEÇ |) ID | NO: | 554: | | | | | | | |
| 60 | | | (i) | | (A) | LENG' | TH: | reris 14 au | mino | aci | ds | | | | | |
| UU | | | | | (13) | LIPE | : am | ino (| acid | | | | | | | |

(B) TYPE: amino acid

```
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 554:
     Tyr Pro Aon Glin Asp Gly Asp Ile Leu Arg Asp Gin Val Len
 5
     (2) INFORMATION FOR SEQ ID NO: 555:
10
            (i) SEQUENCE CHARACTERISTICS:
                 (A) LENGTH: 11 amino acids
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
15
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 555:
     Glu Ala Pro Trp Pro Ser Ala 3ln Ser Glu Ile
     1 5 10
20
     (2) INFORMATION FOR SEQ ID NO: 556:
            (1) SEQUENCE CHARACTERISTICS:
25
                  (A) LENGTH: 21 amino acids
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 556:
30
     Ser Gly Glu Glu Ser Tyr Trp Met Gln Phe Thr Ala Ala Val Glu
                                10
     Phe Ile Lys Thr Ile
               20
35
     (2) INFORMATION FOR SEQ ID NO: 557:
40
           (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 18 amino acids
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (X1) SEQUENCE DESCRIPTION: SEQ ID NO: 557:
45
     Ala App App Phe Val Pro Val Leu Val Phe Val Leu Ile Lyp Ala Apn
     1 5
                          10
     Pro Pro
50
```

- Callie II walle II - B: TYPE: amino ani - No TOPOLOGY, linear

WIN OFFICENCE PROMPTEMENTS OFFI TO NOT 554.

(D) TOPOLOGY: linear

```
Tyr Lys Thr Pro Arg Asp Lys Val Gln Cys Ile Leu
            5
 5
     (2) INFORMATION FOR SEQ ID NO: 559:
            -i) SEQUENCE CHARACTERISTICS:
10
                  (A) LENGTH: 15 amino acids
                   (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            xi) SEQUENCE DESCRIPTION: SEQ ID NO: 559:
15
     Gly Ala Asp Asp Phe Val Pro Val Leu Val Phe Val Leu Ile Lys
      1
         5
                           10
20
     (2) INFORMATION FOR SEQ ID NO: 560:
            (1) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 12 amino acids
                   (E) TYPE: amino acid
25
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 560:
     Pro Val Leu Val Phe Val Leu Ile Lys Ala Asn Pro
30
     (2) INFCFMATION FOR SEQ ID NO: 561:
35
            (1) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 17 amino acids
                   (E) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 561:
40
     Ser Ala Arg Ala Ser Thr Gln Pro Pro Ala Gly Gln His Pro Gly Pro
      1 5 10
     Cys
45
     (2) INFORMATION FOR SEQ ID NO: 563:
50
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 33 amino acids
                  (E) TYPE: amino acid
                  (D) TCPOLOGY: linear
55
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 562:
     Met Pro Gly Arg Trp Arg Trp Gln Arg Asp Met His Pro Ala Arg Lys
                                10
60
     Leu Leu Ser Leu Leu Phe Leu Ile Leu Met Gly Thr Glu Leu Thr Gln
```

WO 98/54963 PCT/US98/11422

644

25 20 Asp 5 (2) INFORMATION FOR SEQ ID NO: 563: (i) SEQUENCE CHARACTERISTICS: 10 (A) LENGTH: 19 amino acids (B) TYPE: amino acid (D) TOPGLOGY: linear (x1) SEQUENCE DESCRIPTION: SEQ ID NO: 563: 15 Ser Ala Ala Pro Asp Ser Leu Leu Arg Ser Ser Lys Gly Ser Thr Arj 10 1 5 Gly Ser Leu 20 (2) INFORMATION FOR SEQ ID NO: 564: 25 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 20 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 564: 30 Ala Ala Ile Val Ile Trp Arg Gly Lys Ser Glu Ser Arg Ile Ala Lys 10 1 5 35 Thr Pro Gly Ile 20 40 (2) INFORMATION FOR SEQ ID NO: 565: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 17 amino acids (B) TYPE: amino acid 45 (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 565: Pro Leu Gly Ile Thr Leu Pro Leu Gly Ala Pro Glu Thr Gly Gly Gly 1 5 10 50 Asp IN OFFICERING NEARA TERFISTICAL A LEMMTH: 21 amino acido E MMER amino ani 60

Note that the second

```
(D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 566:
     Cys Ala Ala Glu Thr Trp Lys Gly Ser Gln Arg Ala Gly Gln Leu Cys
5
       1 5
     Ala Leu Leu Ala
                20
10
     (2) INFORMATION FOR SEQ ID NO: 567:
            (i) SEQUENCE CHARACTERISTICS:
15
                   (A) LENGTH: 20 amino acids
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 567:
20
     Phe Arg Gly Gly Cly Thr Leu Val Leu Pro Pro Thr His Thr Pro Glu
                                     10
     Trp Leu Ile Leu
25
      (2) INFORMATION FOR SEQ ID NO: 568:
30
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 22 amino acids
                    (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 568:
35
      Met Arg Ser Ala Arg Pro Ser Leu Gly Cys Leu Pro Ser Trp Ala Phe
                                        1.0
                     5
      Ser Gln Ala Leu Asn Ile
40
                 20
      (2) INFORMATION FOR SEQ ID NO: 569:
45
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 22 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
50
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 569:
      Leu Leu Gly Leu Lys Gly Leu Ala Pro Ala Glu Ile Ser Ala Val Cys
                               10
55
      Glu Lys Gly Asn Phe Asn
                  2.0
                                                                        · . • .
```

60 (2) INFORMATION FOR SEQ ID NO: 570:

A Company of the A

| 5 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 26 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 570: |
|----|---|
| 10 | Val Ala His Gly Leu Ala Trp Ser Tyr Tyr Ile Gly Tyr Leu Arg Leu 1 5 10 15 Ile Leu Pro Glu Leu Gln Ala Arg Ile Arg |
| 15 | 20 25 (3) INFORMATION FOR SEQ ID NO: 571: |
| 20 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 18 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 571: |
| 25 | Thr Tyr Asn Gln His Tyr Asn Asn Leu Leu Arg Gly Ala Val Ser Gln 1 5 10 15 |
| | Arg Cys |
| 30 | |
| | (2) INFORMATION FOR SEQ TD NO: 572: |
| 35 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 43 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 572: |
| 40 | The Leu Leu Pro Leu Asp Cys Gly Val Pro Asp Asn Leu Ser Met Ala 1 5 10 15 |
| 45 | Asp Pro Ash Ile Arg Phe Leu Asp Lys Leu Pro Gln Gln Thr Gly Asp 20 25 20 |
| 70 | Arg Ala Gly Ile Lys Asp Arg Val Tyr Ser Amn 35 40 |
| 50 | (2) INFCEMATION FOR SEQ ID NO: 573: |
| | en de merchen. De la la la Maria de la Regiona de la composição de la composição de la composição de la composição de la comp |
| | Ser The Tyr Shu Lou Leu Shu Abn Shy Shn Ard Ala Shy Thr Sys Val |

| | Leu | Glu | Tyr | Ala 20 | Thr | Pro | Leu | Gln | Thr 25 | Leu | Phe | Ala | Met | Ser 30 | Gln | Tyr |
|-----|-----------|-----------|-------------|-----------|--------------------------------------|-------------------------|------------------------|-------------------------|----------------------|-----------|-----------|---------------|-----------|-----------|-----------|-----------|
| 5 | Ser | Gln | Ala 35 | Gly | Phe | Ser | Gly | Glu 40 | Asp | Arg | Leu | Glu | Gln 45 | | | |
| 10 | (2) | INFO | ORMA' | LION | FOR | SEQ | ID I | NO: ! | 574 : | | | | | | | |
| 15 | | | | ((| ENCE A) L B) T D) T UENC | ENGT YPE : OPOL | H: 9 ami OGY: | 2 am no a lin | ino cid ear | acid | | : 5 7 | 4: | | | |
| 20 | Ala 1 | Lys | Leu | Phe | Cys 5 | Arg | Thr | Leu | Glu | Asp 10 | Ile | Leu | Ala | Asp | Ala 15 | Pro |
| _ • | Glu | Ser | Gln | Asn 20 | Asn | Cys | Arg | Leu | Ile 25 | Ala | Tyr | Gln | Glu | Pro 30 | Ala | Asp |
| 25 | Asp | Ser | Ser 35 | Phe | Ser | Leu | Ser | Gln 40 | Glu | Val | Leu | Arg | His 45 | Leu | Arg | Glrı |
| | Glu | Glu 50 | - | Glu | Glu | Val | Thr 55 | Val | Gly | Ser | Leu | Lys 60 | Thr | Ser | Ala | Val |
| 30 | Pro 65 | Ser | Thr | Ser | Thr | Met 70 | | Gln | Glu | Pro | Glu 75 | Leu | Leu | Ile | Ser | 80 Gly |
| 35 | Met | Glu | Lys | Pro | Leu 85 | Pro | Leu | Arg | Thr | Asp 90 | Phe | Ser | | | | |
| | (2) | INP | ORMA | TION | FOR | SEQ | IÒ | NO: | 575 : | | | | | | | |
| 40 | | | | | ENCE (A) I (B) I (D) I | ENGI TYPE : TOPOI | TH: 4 : am: LOGY | 13 ar ino a : lir | mino acid near | acid | |): 5 7 | '5: | | | |
| 45 | Leu 1 | | Gly | Leu | Lys 5 | | / Leu | ı Ala | Pro | Ala 10 | | Ile | Ser | Ala | . Val | Cys |
| 50 | Glu | Lys | Gly | Asn 20 | | Asn | ı Val | . Ala | His 25 | | Leu | . Ala | Trp | Ser 30 | | Tyr |
| | Ile | Gly | 7 Tyr 35 | | ı Arg | Leu | ılle | 2 Leu 40 | | Glu | Leu | | | | | |
| 55 | | | | | | | | | | | | | | | | |
| | (2) | INF | | | FOR | | | | | | | | | | | |
| 60 | | | (1) | SEQU | JENCI (A) I | | | | srics mino | | ds | | | | | |

| | (B) TYPE: amino acid (D) TOPOLOGY: linear (Mi) DEQUENCE DESCRIPTION: SEQ ID NO: 576: |
|----------|---|
| 5 | Thr Mot Lys Leu Eys Leu Arg Arg Ash Ile Val Lys Leu Ser Leu 1 5 10 15 |
| 10 | Tyr Arg His Phe Thr Asn 20 |
| | (3) DEPORTED TO SEQ ID NO: 577: |
| 15 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 22 amino acids (E) TYPE: amino acid (D) TOPOLOGY: linear |
| 20 | (xi) SEQUENCE DESCRIPTION: SMQ ID NO. 577. |
| | Thr Leu Ile Leu Ala Val Ala Ala Ser Ile Val Phe Ile Ile Trp Thr 1 5 16 15 |
| 25 | Thr Met lys Pne Arg Ile |
| 30 | (1) THEOFMATION FOR SEQ ID NO: 578: |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 28 amino acids E) TYPE: amino acid |
| 35 | <pre>D) TOPOLOGY: linear .stl) SEQUENCE DESCRIPTION: SEQ ID NO: 578.</pre> |
| | Val Thr Cys Gin Ser Asp Trp Arg Glu Leu Trp Val App Asp Ala Ile |
| | 10 15 |
| 40 | Trp Arg Leu Phe Ser Met Ile Leu Phe Val Ile 20 25 |
| 40 45 | Trp Arg Leu Leu Phe Ser Met Ile Leu Phe Val Ile |
| | Trp Arg Leu Leu Phe Ser Met Ile Leu Phe Val Ile 23 25 |

| | (2) INFORMATION FOR SEQ ID NO: 580: |
|----|---|
| 5 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 27 amino acids (B) TYPE: amino acid |
| | (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 580: |
| 10 | Met Val Leu Trp Arg Pro Ser Ala Asn Asn Gln Arg Phe Ala Phe Ser 1 5 10 15 |
| | Pro Leu Ser Glu Glu Glu Glu Asp Glu Gln 20 25 |
| 15 | |
| | (2) INFORMATION FOR SEQ ID NO: 581: |
| 20 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 35 amino acids (B) TYPE: amino acid (D) TOPOLCGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 581: |
| 25 | Lys Glu Pro Met Leu Lys 3lu Ser Phe Glu Gly Met Lys Met Arg Ser 1 5 10 15 |
| 30 | Thr Lys Gln Glu Pro Asn Gly Asn Ser Lys Val Asn Lys Ala Gln Glu 20 25 30 |
| | Asp Asp Leu 35 |
| 35 | (2) INFORMATION FOR SEQ ID NO: 582: |
| 40 | (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 37 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 582: |
| 45 | Lys Trp Val Glu Glu Asn Val Pro Ser Ser Val Thr Asp Val Ala Leu 1 5 10 15 |
| | Pro Ala Leu Leu Asp Ser Asp Glu Glu Arg Met Ile Thr His Phe Glu 20 25 30 |
| 50 | Arg Ser Lys Met Glu 35 |
| 55 | (2) INFORMATION FCR SEQ ID NO: 583: |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 20 amino acids (B) TYPE: amino acid |
| 60 | (D) TOPOLOGY: linear |

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(xi) SEQUENCE DESCRIPTION: SEQ TO NO: ER::
     Asp Pro Arg Val Arg Leu Ash Ser Leu Thr Tyd Lyd His Tie Phe Die
5
     Ser Leu Thr Gln
10
     (2) INFORMATION FOR EEQ ID NO: ERL:
            (i) SEQUENCE CHAPACTERLETERE
                  (A) LENGTH, 13 amung aging
15
                  (B) TIFE: amino acid
                   (D) TOPOLOGY: limear
            (MA) SEQUENCE DESCRIPTION: SEQ ID NO: 594:
     Tyr Glu Pro Mai Alp Pile Mad Met Ala Del Sie Syn Asp
20
      1 5
     (2) INFORMATION FOR JEQ ID NO: 888:
25
            (1) SEÇUENCE CHARACTERISTICS:
                  (A) LENGTH: 18 amino acida
                   (B) FFFE: amuno aciá
                  (D) TOPOLOGY: linear
30
          (Will Sequence Description: Seq to No: Bes:
     Ile Arg Hio Clu Leu Thr Val Leu Ard Ago Thr Arg Pro Ala Dys Ala
35
40
     (2) INFORMATION FOR SEQ ID NO: 536:
            (A) LEDWIN: DI animo abilis
                  (B) ToPE: whine soci
45
                   (D) TOPOLOGY: 11:41:
            (M1) UBQUENCE DESCRIPTION: JEG 10 NO: 186.
     Met Asp Phe Kaa Mat Ala Leu Ils Tyr Asp
50
          i. Torology: limetr
           - KKI BEÇUELKE DESCRIPTINK DEÇ 12 NOS SENC
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 $\{\Delta_{i},\dots,\Delta_{i}\} = \{\Delta_{i},\dots,\Delta_{i}\}$

| | Met 1 | G1n | Glu | Met | Met 5 | Arg | Asn | Gln | Asp | Arg 10 | Ala | Leu | Ser | Asn | Leu IS | Glu | | |
|----|----------|-----|-----------|----------------|----------------------|-----------------------|---------------------|---------------------|---------------------|-----------|------|-------|-----------|-----------|-----------|-----|--|------------|
| 5 | Ser | Ile | Pro | Gly 20 | Gly | Tyr | Asn | Ala | | | | | | | | | | |
| 10 | (2) | | | TI∙ON SEQUI | ENCE | | RACT | ERIS' | TICS | | s | | | | | | | |
| 15 | | | (xi) | | D) T | YPE: OPOL E CE: | OG:: : | lin | ear | EQ I: | D NO | : 58 | 8 : | | | | | |
| | Leu 1 | Arg | Arg | Met | Тут 5 | Thr | Asp | Ile | Gln | Glu 10 | Pro | Met | Leu | Ser | Ala 15 | Ala | | |
| 20 | Gln | Glu | Gln | Phe 20 | Gly | Gly | Asn | Pro | Phe 25 | | | | | | | | | |
| 25 | (2) | | | ricn | | | | | | | | | | | | | | |
| 30 | | | | (| A) L B) T D) T | ENGT YPE: OPCL | H: 3 ami OGY: | 2 am no a lin | ino . cid ear | acid | | : 585 | 9 : | | | | | |
| 35 | Ala 1 | Ser | Leu | Val | Ser 5 | Asn | Thr | Ser | Ser | Gly 10 | Glu | Gly | Ser | Gln | Pro 15 | Ser | | |
| | Arg | Thr | Glu | Asn 20 | Arg | Asp | Pro | Leu | Pro 25 | Asn | Pro | Trp | Ala | Pro 30 | Gln | Thr | | |
| 40 | | | | | | | | | | | | | | | | | | |
| 45 | (2) | | | | ENCE A) L | _ | RACT H: 7 | ERIS' l am | TICS | | s | | | | | | | |
| 50 | | | (xi) | SEQU | | OPCL E DE: | | | | EQ II | ON C | : 590 | Э: | | | | | |
| | Ser 1 | Gln | Ser | Ser | Ser 5 | Ala | Ser | Ser | Gly | Thr 10 | Ala | Ser | Thr | Val | Gly 15 | Gly | | |
| 55 | Thr | Thr | Gly | Ser 20 | Thr | Ala | Ser | Gly | Thr 25 | Ser | Gly | Gln | Ser | Thr 30 | Thr | Ala | | . . |
| 60 | Pro | Asn | Leu 35 | Val | Pro | Gly | Val | Gly 40 | Ala | Ser | Met | Phe | Asn 45 | Thr | Pro | Gly | | |

```
Mot Gln Ser Leu Leu Gln Gln Ile Thr Glu Asn Pro Gln Leu Met Gin
               50 55 60
             Asn Met Leu Ser Ala Pro Tyr
  5
              65
              (2) INFORMATION FOR SEQ ID NO: 591:
10
                                 (i) SEQUENCE CHARACTERISTICS:
                                                 (A) LENGTH: 45 amino acids
                                                  (B) TYPE: amino acid
                                                  (D) TOPOLOGY: linear
                                (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 591:
15
              Met Arg Ser Met Met Gln Ser Leu Ser Gln Asn Pro Asp Leu Ala Ala
                                                                                                        10
               1 5
               Gìn Met Met Leu Asn Asn Pro Leu Phe Ala Gly Asn Pro Gln Leu Gln
20
                                                                                               25
               Glu Gln Met Arg Gln Gln Leu Pro Thr Phe Leu Gln Gln
                                                                                    40 45
                  35
 25
                (2) INFORMATION FOR SEQ ID NO: 592:
                              (i) SEQUENCE CHARACTERISTICS:
 30
                                               (A) LENGTH: 73 amino acids
                                                    (B) TYPE: amino acid
                                                    (D) TOPOLOGY: linear
                                  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 592:
 35
                Met Gln Asn Pro Asp Thr Leu Ser Ala Met Ser Asn Pro Arg Ala Met
                                                                            10 15
                Gln Ala Leu Leu Gln Ile Gln Gln Gly Leu Gln Thr Leu Ala Thr Glu
  40
                 Ala Pro Gly Leu Ile Pro Gly Phe Thr Pro Gly Leu Gly Ala Leu Gly
                 Ser Thr Gly Gly Ser Ser Gly Thr Ash Gly Ser Ash Ala Thr Pro Ser
  45
                                                                                55
                  Glu Asn Thr Ser Pro Thr Ala Gly Thr
                                  70
   50
                      الأرفاع المنافع المناسبة المنا
                                                       I) Tublifor, linear
                                    (xi) DEQUENCE DESCRIPTION: SEQ ID NO: 840.
    60
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| 5 | Ala Gly Tal Ash Pro Gln Deu Gln Ash Pro Glu Val Arg Phe Gln Gln 20 25 30 |
|----|---|
| | Gim Let Gir Glm Leu Ser Ala Met Giy Phe Leu Ash Arg Glu Ala Ash 33 40 45 |
| 10 | Ler Gim Ala Leu Ile Ala Thr Gly Gly Asp Ile Asn Ala Ala Ile Glu 55 60 |
| 15 | Ard led led Gly Ser Gln Pro Ser 88 70 |
| | 12. INFOFMATION FOR SEQ ID NO: 594: |
| 20 | (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 45 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 25 | (mi) SEQUENCE DESCRIPTION: SEQ ID NO: 594: |
| | Arg Aph Pro Ala Met Met Gln Glu Met Met Arg Ash Gln Asp Arg Ala 1 10 15 |
| 30 | Leu Sar Ash Leu Glu Ser Ile Pro Gly Gly Tyr Ash Ala Leu Ard Arg 20 25 30 |
| | Met Tym Thr Asp Ile Gln Glu Pro Met Leu Ser Ala Ala 35 40 45 |
| 35 | |
| | (2) INFORMATION FOR SEQ ID NO: 595: |
| 40 | SEQUENCE CHARACTERISTICS: (A) LENGTH: 13 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 595: |
| 45 | Gly Asn Pro Phe Ala Ser Leu Val Ser Asn Thr Ser Ser 1 5 10 |
| 50 | (2) INFOFMATION FOR SEQ ID NO: 596: |
| | (i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 11 amino acids(B) TYPE: amino acid |
| 55 | (B) TYPE: amino deld (D) TOPOLOGY: linear (N1) SEQUENCE DESCRIPTION: SEQ ID NO: 596: |
| 60 | Glu Asn Arg Asp Pro Leu Pro Asn Pro Trp Ala 1 5 10 |

```
(2) INFORMATION FOR SEQ ID NO: 597:
          (i) SEQUENCE CHAPACTERISTICS:
5
                  (A) LENGTH: 17 amino acido
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 597:
10
     Gly Lys Ile Leu Lys Asp Gin Asp Thr Leu Ser Gln His Gly Ile His
     5 10
     Asp
15
     (2) INFORMATION FOR SEQ ID NO: 598:
20
            (i) SEQUENCE CHARACTERISTICS:
                 (A) LENGTH: 14 amino acids
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (ki) SEQUENCE DESCRIPTION: SEQ ID NO: 598:
25
     Gly Leu Thr Val His Leu Val Ile Lys Thr Gln Asn Arg Pro
      1 5
30
     (2) INFORMATION FOR SEQ ID NO: 599:
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 18 amino acids
35
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 599:
      Ser Glu Leu Gln Ser Gln Met Gln Arg Gln Leu Leu Ser Asn Pro Glu
40
      1 5 10
      Met Met
45
      (2) INFORMATION FOR SEQ ID NO: 600:
           (i) SEQUENCE CHARACTERISTICS:
50
                   (A) LENGTH: 14 amino acids
                    (B) TYPE: amino acid
                       جهالان المعالي الماريعات
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(2) INFORMATION FOR SEQ ID NO: 601:
           (1) SEQUENCE CHAPACTERISTICS:
                 (A) LENGTH: 18 amino acids
5
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
           (xi) SEQUENCE DESCRIPTION: SEQ ID NU: 801:
     Arg Gln Leu Ile Met Ala Asn Pro Gln Met Gln Gln Leu Ile Gln Arg
     1 5 11
10
     Asn Pro
15
     (2) INFORMATION FOR SEQ ID NO: 802:
            (i) SEQUENCE CHAPACTERISTICS:
20
                (A) LEXGTH: 27 amino acids
                  (3) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 602.
25
     Ash Leu Cys His Val Asp Cys Gln Asp Leu Leu Ash Pro Ash Leu Leu
      1 5
     Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser
              20
30
     (2) INFORMATION FOR SEQ ID NO: 603:
35
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LEXGTH: 23 amino acids
                  (3) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 603:
40
     Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser Asp Trp Leu Cys Leu Ala
      1 5
     Phe Val Glu Ser Lys Phe Asn
45
                20
      (2) INFORMATION FOR SEQ ID NO: 604:
50
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 22 amino acids
                   (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
55
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 604:
      Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe Gln Ile Asn
60
    Ser His Tyr Trp Cys Asn
```

20

| 5 | (2) INFORMATION FOR SEQ ID NO: 605: |
|----|---|
| 10 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 27 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 605: |
| 15 | Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Fro Asn Leu Leu 1 5 10 15 Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser 20 25 |
| 20 | (2) INFORMATION FOR SEQ ID NO: 606: |
| 25 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 13 amino acids (E) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 606: |
| 30 | Ile Arg Glu Val Asn Glu Val Ile Gln Asn Pro Ala Thr 1 5 10 |
| 35 | (2) INFORMATION FOR SEQ ID NO: 607: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 30 amino acids (B) TYPE: amino acid (D) TOPOLCGY: linear |
| 40 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 607: |
| | Ilo Thr Arq Ilo Leu Ser His Phe Asn Trp Asp Lys Glu Lys Leu 1 5 10 15 |
| 45 | Met Glu Arg Tyr Phe Acp Gly Asn Lou Glu Lys Leu Phe Ala 20 25 30 |
| 50 | (2) INFORMATION FOR SEQ ID NO: 608: |
| | (i) SEQUENCE CHARACTERISTICS: |
| | |
| 60 | Acts Throat free feet Ala (In Acp Met Pric yo Acts I.e. Sys Est Dec 1 |

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Asn Tyr Pro Asn Ser Tyr Phe 20 5 (2) INFORMATION FOR SEQ ID NO: 609: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 60 amino acids 10 (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 609: Cys Asp Ile Leu Val Asp Asp Asn Thr Val Met Arg Leu Ile Thr Asp 15 1.0 Ser Lys Val Lys Leu Lys Tyr Gln His Leu Ile Thr Asn Ser Phe Val Glu Cys Asn Arg Leu Leu Lys Trp Cys Pro Ala Pro Asp Cys His His 20 Val Val Lys Val Gln Tyr Pro Asp Ala Lys Pro Val 55 25 (2) INFORMATION FOR SEQ ID NO: 610: 30 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 52 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 610: 35 Cys Asp Ile Leu Val Asp Asp Asn Thr Val Met Arg Leu Ile Thr Asp - 10 Ser Lys Val Lys Leu Lys Tyr Gln His Leu Ile Thr Asn Ser Phe Val 40 Glu Cys Asn Arg Leu Leu Lys Trp Cys Pro Ala Pro Asp Cys His His 40 45 Val Val Lys Val 50 (2) INFORMATION FOR SEQ ID NO: 611: 50 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 60 amino acids (B) TYPE: amino acid 55 (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 611: Gly Cys Asn His Met Val Cys Arg Asn Gln Asn Cys Lys Ala Glu Phé 1 5 10 60

| | Cys Trp Val Cys Leu Gly Pro Trp Glu Pro His Gly Ger Ala Trp Tyr 25 30 |
|----|---|
| 5 | Ash Cys Ash Arg Tyr Abh Glu Ash Abh Ala Dys Ala Ala Ard Ash Ala 35 40 45 |
| | Gln Glu Arg Ser Arg Ala Ala Leu Gln Arg Tyr Leu 50 55 60 |
| 10 | |
| | (2) INFOFMATION FOR SEQ ID NO: 612: |
| 15 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 60 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 613: |
| 20 | Phe Tyr Cys Aon Arg Tyr Met Asn His Met Gln Ser Leu Arg Phe Glu 1 5 10 15 |
| 25 | His Lys Leu Tyr Ala Gln Val Lys Gln Lys Met Glu Glu Met Gln Gln 25 30 |
| 23 | His Asn Met Ser Trp Ile Glu Val Gln Phe Leu Lys Lys Ala Val Asp 35 40 45 |
| 30 | Val Leu Cys Gin Cys Arg Ala Thr Leu Met Tyr Thr 50 55 60 |
| 35 | (2) INFORMATION FOR SEQ ID NO: 613: (i) SEQUENCE CHARACTERISTICS: |
| 40 | (A) LENGTH: 60 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 613: |
| | Tyr Val Phe Ala Phe Tyr Leu Lys Lys Asn Asn Gln Ser Ile Ile Phe 1 5 10 15 |
| 45 | Glu Asn Asn Sin Ala Asp Leu Glu Asn Ala Thr Glu Val Leu Ser Gly |
| 50 | Tyr Leu Glu Arg Asp Ile Ser Gln Asp Ser Leu Gln Asp Ile Lys Gln 35 40 45 |
| | Dys Val Glm App Dyn Tyr Ard Tyr Cys Glu Der Ard 50 - 55 - 50 |
| | |

i (PRITEIRE THARASTERIUTITA): (A) DEMOTH: VI amino autik (B) TYPE: amino anii

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(D) TOPOLOGY: linear
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 614:
     Thr Gly Leu Glu Cys Gly His Lys Phe Cys Met Gln Cys Trp Ser Glu
5
     Tyr Leu Thr Thr Lyb Ile Met Glu Glu Gly Met Gly Gln Thr Ile Ser
                       25
10
     Cys Pro Ala His Gly
     (2) INFORMATION FOR SEQ ID NO: 615:
15
            (i) SEQUENCE CHARACTERISTICS:
                 (A) LENCTH: 21 amino acids
                  (B) TYPE, amino acid
20
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 615:
     Met Trp Gly Tyr Leu Phe Val Asp Ala Ala Trp Asn Phe Leu Gly Cys
                           10
      1 5
25
      Leu Ile Cys Gly Trp
30
      (2) INFORMATION FOR SEQ ID NO: 616:
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 46 amino acids
35
                   (B) TYPE: amino acid
                   (D) TOPCLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 616:
      Met His Phe Ile Ser Ser Gly Asn Val Ser Ala Ile Arg Ser Ser Ile
40
                                       10
      1 5
      Leu Leu Leu Arg Xaa Ser Leu Ser Tyr Leu Gly Asn Cys Leu Arg Val
                          25
      Ser Ala Ile Phe Val Tyr Phe Leu Leu Phe Leu Leu Leu Ser
 45
              35 40
      (2) INFORMATION FOR SEQ ID NO: 617:
 50
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 80 amino acids
                    (E) TYPE: amino acid
 55
                    (D) TOPOLOGY: linear
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 617:
       Met Asp Gln Ala Leu Arg Gly Ser Pro Ser Glu Gly Phe Ser Thr Asp
                              10
                       5
```

| | Pro | Sur | Pro | Pro | Gln ' | Val | Gly | Arg | 91n 25 | Ile | I'ro | Fer | Phe | Pro 30 | Pro | Trp |
|----|-----------|------------|-------------|--------------|----------------------|----------------------|---------------------|-------------------------|----------------------|-----------|-----------|-----------|-------------|--------------|-------------|-------------|
| 5 | Arg | Arg | Leu 35 | Val | Leu | Pro | Lys | Ala 40 | Ser | 317 | Oys | Phe | Leu 45 | Glu | Arg | Glu |
| | Trp | Trp 50 | Leu | Cys | Val | Fhe | Lys 55 | Leu | Arg | Thr | Arg | 50 20 | Gly | Ala | Glu | Ala |
| 10 | His 65 | Ala | Tyr | Asn | Ser | Ser 70 | Il→ | Leu | Gly | Gly | Arg 75 | Gly | Ly:3 | Gly | Ile | Thr 80 |
| 15 | | | | | | | | | | | | | | | | |
| | (2) | INF | OPMA | MOIT | FOR | SEQ | ID 1 | NO: | 618: | | | | | | | |
| 20 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: l amı OGV: | .31 a .no a : lir | mino acid near | o aci | | ·: 61 | 8: | | | |
| 25 | Met 1 | | ı Pro |) Ala | Leu 5 | Ala | Ser | Cys | : Cys | His | | Ser | Pro | Pro | Glu 15 | Gln |
| 30 | Ala | Ala | a Arç | j Leu 20 | | Lys | Leu | ı Glr | n Glu 25 | | Glu | Lys | : Gln | Gln 30 | Lys | Val |
| | Glu | Phe | e Ard | ą Lys | Arg | Met | Gh | 1 Lys 40 | | ı Val | . Ser | : Asp | Phe 45 | Ile | Gln | Asp |
| 35 | Ser | G1; | | n Ile | . Lys | Lys | Lys 55 | | e Glr | i Pro |) Met | Ası 60 | n Lys) | : I1∈ | Glu | a Arç |
| 40 | Ser 65 | | e Le | u His | : Asp | Val | | l Gl | ı Val | l Ala | 3 Gly | | a Thr | Ser | · Phe | e Ser 80 |
| 40 | Phe | e Gl | y Gl | u Asp | Asp ee | | o Cy: | s Ar | J TY | r Val | | E Il. | e Phe | e Lys | 9° | s Glu |
| 45 | rd4 | ∋ Al | a Pr | o Sen 100 | | o Glu | ı Gİ | u ∫≏ | u AS 10 | p Se 5 | r Ty | r Ar | g Ar | a Gly 113 | y (31) 1 | ı Gl |
| | Тгд | p As | р Pr 11 | o Gli S | n Lys | s Al | a Gl | u Gl 12 | | s Ar | g As | n Xa | a Ly: 12 | s Glu 5 | ı Le | u Al |
| 50 | Gli | n Ar 13 | rg Gl 10 | ก | | | | | | | | | | | | |

A LEISTE, To mint a cu (B) TYPE: min agrid (C) TOPOLYSY, linear

⁶⁰

| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 619: |
|----|---|
| - | Glu Glu Glu Ala Ala Gln Gln Gly Pro Val Val Val Ser Pro Ala Ser 1 5 10 15 |
| 5 | Asp Tyr Lys Asp Lys Tyr Ser His Leu Ile Gly Lys Gly Ala Ala Lys 20 25 30 |
| 10 | Asp Ala Ala His Met Leu Gln Ala Asn Lys Thr Tyr Gly Cys Xaa Pro 35 40 45 |
| | Val Ala Aon Lys Arg Asp Thr Arg Ser Ile Glu Glu Ala Met Ash Glu 50 55 60 |
| 15 | Ile Arg Ala Lys Lys Arg Leu Arg Gln Ser Gly Glu 65 70 75 |
| 20 | (2) INFOFMATION FOR SEQ ID NO: 620: |
| 25 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 40 amino acids (B) TYPE: amino acid (D) TCPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 620: |
| 30 | Pro Pro Arg Arg Pro Ala Gln Leu Pro Leu Thr Pro Gly Ala Gly Gln 1 5 10 15 Gly Ala Gly Arg Asp Lys Ala Ala Ala Ile Arg Ala His Pro Gly Ala |
| 35 | 20 25 30 Pro Pro Leu Asn His Leu Leu Pro 35 40 |
| 40 | (2) INFORMATION FOR SEQ ID NO: 621: (i) SEQUENCE CHAFACTERISTICS: |
| 45 | (A) LENGTH: 28 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 621: |
| 43 | Ala Val Pro Gln Ala Gly Gly Lys Gln Val Phe Asp Leu Ser Pro Leu 1 5 10 15 |
| 50 | Glu Leu Gly Tyr Val Arg Gly Met Cys Val Cys Val 20 25 |
| 55 | (2) INFORMATION FOR SEQ ID NO: 622: |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 207 amino acids (B) TYPE: amino acid |
| 60 | (D) TOPOLOGY: linear |

| (xi) SECUENC | DESCRIPTION: | SEQ | ID | :011 | 622: |
|--------------|--------------|-----|----|------|------|
|--------------|--------------|-----|----|------|------|

Met Leu Pro Ala Leu Ala Ser Cys Cys His Phe Ser Pro Pro Glu Gln

Ala Ala Arg Leu Lys Lys Leu Gln Glu Gln Glu Lys Gln Gln Lys Val 20 25 30

Glu Phe Arg Lys Arg Met Glu Lys Glu Val Ser Asp Phe Ile Gln Asp 10 35 40 45

Ser Gly Gln Ile Lys Lys Lys Phe Gln Pro Met Abn Lys Ile Glu Arg 50 55 60

Ser Ile Leu His Acp Val Val Glu Val Ala Gly Leu Thr Ser Phe Ser 65 70 75 80

Phe Gly Glu App App App Cys Arg Tyr Val Met Ile Phe Lys Lys Glu 85 90 95

20 Phe Ala Pro Ser Asp Glu Glu Leu Asp Ser Tyr Arg Arg Gly Glu Glu 100 105 110

Trp Asp Pro Gln Lys Ala Glu Glu Lys Arg Asn Xaa Lys Glu Leu Ala 25 115 120 125

Gln Arg Gln Glu Glu Glu Ala Ala Gln Gln Gly Pro Val Val Val Ser 130 135 140

30 Pro Ala Ser Asp Tyr Lys Asp Lys Tyr Ser His Leu Ile Gly Lys Gly

Ala Ala Lys Asp Ala Ala His Met Leu Gln Ala Asn Lys Thr Tyr Gly 165 170 175

Cys Xaa Pro Val Ala Asn Lys Arg Asp Thr Arg Ser Ile Glu Glu Ala 180 185 190

Met Asn Glu ile Arg Ala Lys Lys Arg Leu Arg Gln Ser Gly Glu
40 195 200 205

(3) INFORMATION FOR SEQ ID NO: 623:

(i) JEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 623:

Lou Leu Cys Pro Val Leu Ash Ser Gly Xaa Ser Trp Ash The Pro His

1:: 1.

No. of the A.

35

| | (2) I | NFOF | RMAT: | I NOI | FOR 3 | EQ I | D NO |): 62 | 24: | | | | | | | | | |
|----|------------|------------|------------|-------------------|----------------------|-----------------------|-----------------------|------------------------|---------------------|------------|------------|------------|------------|------------|------------|-----------|---|---|
| 5 | | | | (B (D |) LH) TY) TO | NGTH PE: POLO | : 28 amin GY: | ami o ac line | no a id ar | | | 624 | | | | | | |
| 10 | Pro S | | | SEQU Prc ' | | | | | | | | | | Dys ! | Pro 1 | Phe | | |
| 15 | Ser 5 | Thr : | Ser i | His ' | Pro <i>i</i> | Arg ' | Trp / | Asp . | Ser : 25 | Ile ! | Pro | Pro | | | | | | |
| 20 | (2) | | | EÇUE (2 (1) | NCE | CHAR INGTH (PE: | ACTE i: 22 amir | RIST 27 am no ac | ICS: mino cid | | ls | | | | | | | |
| 25 | | (| (xi) | SEQU | | | | | | EQ II | NO: | 625 | 1 | | | | | |
| | Glu 1 | Leu | Ser | Ile | Ser 5 | Ile | Ser | Asn | Val | Ala 10 | Leu | Ala | Asp | Glu | Gly 15 | Glu | | |
| 30 | Tyr | Thr | Cys | Ser 20 | Ile | Phe | Thr | Met | Pro 25 | Val | Arg | Thr | Ala | Lys 30 | Ser | Leu | | |
| 35 | Val | Thr | Val 35 | Leu | Gly | Ile | Pro | Gln 40 | Lys | Pro | Ile | Ile | Thr 45 | Gly | Tyr | Lys | | |
| 35 | Ser | Ser 50 | Leu | Arg | Glu | Lys | Asp 55 | Thr | Ala | Thr | Leu | Asn 60 | Cys | Gln | Ser | Ser | | |
| 40 | Gly 65 | Ser | Lys | Pro | Ala | Ala 70 | Arg | Leu | Thr | Trp | Arg 75 | Lys | Gly | Asp | Gln | Glu 80 | | |
| | Leu | His | Gly | Glu | Pro 85 | Thr | Arg | Ile | Gln | Glu 90 | Asp | Pro | Asn | Gly | Lys 95 | Thr | | |
| 45 | Phe | Thr | Val | Ser 100 | Ser | Ser | Val | Thr | Phe 105 | Gln | Val | Thr | Arg | Glu 110 | Asp | Asp | | |
| 50 | Gly | Ala | Ser 115 | | Val | Cys | Ser | Val 120 | Asn | His | Glu | Ser | Leu 125 | Lys | Gly | Ala | | |
| 30 | Asp | Arg 130 | | Thr | Ser | Gln | Arg 135 | | Glu | Val | Leu | Tyr 140 | | Pro | Thr | Ala | | |
| 55 | Met 145 | | Arg | Pro | Asp | Pro 150 | | His | Pro | Arg | Glu 155 | | Gln | Lys | Leu | 160 | | |
| | Leu | His | Cys | Glu | Gly 165 | | Gly | Asn | Pro | Val 170 | | Gln | Gln | Tyr | Leu 175 | Trp | - | - |
| 60 | Glu | Lys | Glu | ı Gly | Ser | Val | Pro | Pro | Leu | . Lys | Met | Thr | Gln | Glu | Ser | Ala | | |

| | | | 180 | | | | | 185 | | | | | 130 | | |
|----|---------------|---------------|-------------|-----------------------|--------------|---------------|----------------|---------------|-----------|-------|------------|------------|-------------|-----------|-------|
| £ | Leu Il | e Phe 195 | Pro | Phe | Leu | | Lys 200 | Ser | Asp | Ser | Gly | Thr 205 | Tyr | Gly | Cys |
| 5 | Thr Al | | Ser | Asn | | Gly 215 | Ser | Tyr | Lys | Ala | Tyr 220 | Tyr | Thr | Leu | Asn |
| 10 | Val As 225 | n Asp | | | | | | | | | | | | | |
| 15 | (2) In | | SEQUE () | RICE A) Li | CHAI ENGT | RACTI H: 6 | ERIS' 4 am | rics ino | | is | | | | | |
| 20 | | (xi) | | B) T D) T JENCI | OPOL | OGY : | lin | ear | EQ I | D NO | : 62 | 6 : | | | |
| | Glu Le | w Ser | 114 | Se1 5 | Ile | Ser | Asn | Val | Ala 10 | | Ala | Asp | Glu | Gly 15 | Glu |
| 25 | Tyr Ti | nr Cys | Ser 20 | He | Phe | Thr | Met | Pro 25 | | Arg | Thr | Ala | Lys 30 | Ser | Leu |
| 20 | Val T | nr Val 35 | | Gly | Ile | Pro | Gln 40 | | Pro | ıle | Ile | Thr 45 | Gly | Tyr | Lys |
| 30 | Ser Ser | er Led 50 | ı Ara | Glu | Lys | Asp 55 | | Ala | . Thr | : Leu | Asn 60 | | Gln | Ser | Ser |
| 35 | | | | | | | | | | | | | | | |
| 40 | (2) 1 | NFORM2 (i) | SEÇU | | CHA | ARACT | reris 65 au | STIC: mino | S: aci | ds | | | | | |
| 45 | | (M1 | | (D) S | ropo: | LOGY | : li | near | | ID N | 7: € | 27 : | | | |
| | Cys G 1 | iln Se | r Sei | - Gly 5 | | . Lys | s Pro | λ1. | a Al 1 | | g Lei | ı Thi | Tr | Arç | |
| 50 | Gly A | sp Gl | n Glu 20 | | ı His | s Gly | y Glı | ı Pr | | r Ar | g Il | e Glr | ı Glu 30 | | o Pro |
| | Program (| ilv Iv | e Whi | - Pipe | · Thi | r Va | l Se | r Se | r Se | r Va | 1 Th | r Phe | e Glr | n Va | l Thi |
| 60 | Len Es | | | | | | | | | | | | | | |

ta e de la sula a

| 5 | (2) INFORMATION FOR SEQ ID NO: 628: |
|-----|---|
| 5 | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 58 amino acids |
| | (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 10 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 628: |
| | His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser Gln Arg Ile Glu |
| | 1 5 10 15 |
| 15 | Val Leu Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp Pro Pro His Pro 20 25 30 |
| 20 | Arg Glu Gly Gln Lys Leu Leu His Cys Glu Gly Arg Gly Asn Pro 35 40 45 |
| 20 | Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu 50 55 |
| | |
| 25 | (2) INFORMATION FOR SEQ ID NO: 629: |
| | |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 52 amino acids |
| 30 | (B) TYPE: amino acid (D) TOPOLOGY: linear |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 629: |
| 2 = | Trp Glu Lys Glu Gly Ser Val Pro Pro Leu Lys Met Thr Gln Glu Ser |
| 35 | 1 5 10 15 |
| | Ala Leu Ile Phe Pro Phe Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly 20 25 30 |
| 40 | Cys Thr Ala Thr Ser Asn Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu 35 40 45 |
| | Asn Val Asn Asp |
| 45 | 50 |
| | |
| | (2) INFORMATION FOR SEQ ID NO: 630: |
| 50 | (i) SEQUENCE CHARACTERISTICS: |
| 20 | (A) LENGTH: 123 amino acids |
| | (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 55 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 630: |
| 22 | Val Pro Glu Leu Pro Asp Arg Val His Gln Leu His Gln Ala Val Gln 1 5 10 15 |
| | Gly Cys Ala Leu Gly Arg Pro Gly Phe Pro Gly Gly Pro Thr His Ser |
| 60 | 20 25 30 |

| | Gly His His Lys Ser His Pro Gly Pro Ala Gly Gly Asp Tyr Ash Arg 35 40 45 |
|----|---|
| 5 | Cys App Arg Pro Gly Gln Val His Leu His Apn Pro Arg Gly Thr Gly 50 60 |
| 10 | Arg Arg Gly Gln Leu His Pro Thr Ala Gly Pro Gly Val His Arg Arg 65 70 75 80 |
| 10 | Ata Cys Pro Ser Gln Gln Leu Pro His Arg Leu Gly Pro Gly Val Pro 85 90 95 |
| 15 | Cys Pro Ser Pro Ser Leu Thr Pro Val Leu Pro Ser Trp Thr Gln Ser 100 105 110 |
| | Trp Cys Gly Leu Pro Gly Tyr Thr Ser Ser Ser 115 120 |
| 20 | |
| | (2) INFORMATION FOR SEQ ID NO: 631: |
| 25 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 22 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 631: |
| 30 | Val His Gln Leu His Gln Ala Val Gln Gly Cys Ala Leu Gly Arg Pro 1 5 10 15 |
| 35 | Gly Phe Pro Gly Gly Pro 20 |
| | (2) INFCRMATION FOR SEQ ID NO: 632: |
| 40 | (i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 42 amino acids(P) TYPE: amino acid |
| | (D) TOPOLOGY: linear (Mi) SEQUENCE DESCRIPTION: SEQ ID NO: 630: |
| 45 | Pro Thr His Ser Gly His His Lys Ser His Pro Gly Pro Ala Sly Gly 1 5 10 15 |
| 50 | Asp Tyr Asn Arg Cys Asp Arg Pro Gly Gln Val His Leu His Asn Pro |
| | Arg Gly Thr Gly Arg Arg Gly Gln Leu His |
| | |
| 60 | (i) SEQUEINCE CHAPASTEFISTICS. (A) LEMOTH: S5 amond actids |

| | (B) TYPE: amino acid |
|-----|--|
| | (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 633: |
| | |
| 5 | Leu His Pro Thr Ala Gly Pro Gly Val His Arg Arg Ala Cys Pro Ser 1 10 15 |
| • • | Gln Gln Leu Pro His Arg Leu Gly Pro Gly Val Pro Cys Pro Ser Pro 20 25 30 |
| 10 | Ser Leu Thr Pro Val Leu Pro Ser Trp Thr Gln Ser Trp Cys Gly Leu 35 40 45 |
| 15 | Pro Gly Tyr Thr Ser Ser Ser 50 55 |
| 20 | (2) INFORMATION FOR SEQ ID NO: 634: (1) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 276 amino acids |
| | (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 25 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 634: |
| | Ser Leu Arg Arg Pro Arg Ser Ala Ala Xaa Gln Thr Leu Thr Thr Phe 1 5 10 15 |
| 30 | Leu Ser Ser Val Ser Ser Ala Ser Ser Ser Ala Leu Pro Gly Ser Arg 20 25 30 |
| 35 | Glu Pro Cys Asp Pro Arg Ala Pro Pro Pro Pro Arg Ser Gly Ser Ala 35 40 45 |
| 33 | Ala Ser Cys Cys Ser Cys Cys Ser Cys Pro Arg Arg Ala Pro 50 \$5 60 |
| 40 | Leu Arg Ser Pro Arg Gly Ser Lys Arg Arg Ile Arg Gln Arg Glu Val 65 70 75 80 |
| | Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala Gly Val Pro 85 90 95 |
| 45 | Gly Arg Asp Gly Ser Pro Gly Ala Asn Gly Ile Pro Gly Thr Pro Gly 100 105 110 |
| 50 | Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu Cys Leu Arg 115 120 125 |
| 30 | Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln Cys Ser Trp 130 135 140 |
| 55 | Ser Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala Glu Cys Thr 145 150 155 160 |
| | Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly 165 170 175 |
| 60 | Ser Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe |

 $\mathcal{S}_{\alpha}^{\alpha} = \{ (\alpha, \beta, \beta) \mid \beta \in \Delta, \ \alpha \in \Delta \}$

| | | | 180 | | | | | 185 | | | | | 190 | | |
|----|---------|--------------|--------------|-------------------------|--------------------------|------------------------|-------------------------|-----------------------|------------|------------|------------|------------|------------|------------|------------|
| _ | Thr Phe | Asn 195 | Gly | Ala | Glu | Cys | Ser 200 | Gly | Pro | Leu | Pro | 11e 205 | Glu | Ala | Ile |
| 5 | Ile Tyr | | Asp | Gln | Gly | Ser 215 | Pro | Glu | Mot | Asn | Ser 220 | Thr | He | Asn | Ile |
| 10 | His Arg | g Thr | Ser | Ser | Val 230 | Glu | Gly | Leu | Cys | Glu 235 | Gly | Ile | Gly | Ala | Gly 240 |
| | Leu Val | l Asp | Val | Ala 245 | Ile | Trp | Val | Gly | Thr 250 | Cys | Ser | Asp | Tyr | Pro 255 | Lys |
| 15 | Gly As | p Ala | Ser 260 | Thr | Gly | Trp | Asn | Ser 265 | Val | Ser | Arg | Ile | 11e 270 | Ile | Glu |
| 20 | Glu Le | u Pro 275 | | | | | | | | | | | | | |
| | (2) IN | FORMA | TICN | FOR | SEQ | ID | NO: | 635: | | | | | | | |
| 25 | | | | (A) I (B) 1 (D) 1 | LENGT TYPE : TOPOI | TH: (: am. LOGY | 61 ar ino a : lir | mino acid near | acio | | | | | | |
| 30 | | |) SEC | | | | | | | | | | | | |
| | Ser Le | eu Arg | g Arç | Pro | | g Sei | c Ala | a Ala | 10 10 | | ı Thi | : Let | ı Thi | Thr | Phe |
| 35 | Leu Se | er Se | z Val 20 | | : Ser | Ala | a Sei | s Sei 25 | | c Ala | a Lev | ı Pro | 30 Gly | / Ser) | Arg |
| | Glu Pr | co Cy. | | o Pro | o Arq | g Ala | a Pro | | o Pro | o Pro | o Ar | g Se: | r Gly | y Sei | c Ala |
| 40 | Ala S | er Cy 50 | s Cys | s Sei | r Cys | s Cy. 5 | | s Se: | r Cy: | s Pr | o Ar | g Arg | 3 | | |
| 45 | (2) I | NFORM | ATIO | N FO | R SE | Q ID | N O: | 536 | : | | | | | | |
| 50 | | | SEQ L) SE | (A) (B) (D) | LENG TYPE TOPO | STH: S: ar OLOGY | 52 a nino 7: li | mino ació inear | aci 1 | | 10: E | 536: | | | |
| | | | | ٠. | | | ٠. | ., 1 | | Y | ri Ar | r Ar | a I. | ⊕ Ar | m Hln |
| 60 | aly 1 | fal Pi | 50 (41 15 | y As | 1 A. | ф Э. | | er Fi | ti ja | y A | la A. | ii .3. | iy 13 | l. Er | . + 11y |

```
Thr Pro Gly Ile
         50
5
     (2) INFORMATION FOR SEQ ID NO: 637:
            (i) SEQUENCE CHARACTERISTICS:
10
                  (A) LENGTH: 52 amino acids
                   (B) TYPE: amino acid
                   (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 637:
     Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu
15
      1 5
                                         10
     Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln
                  2.0
                                     2.5
20
     Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala
                         40
           35
     Glu Cys Thr Phe
25
         50
      (2) INFORMATION FOR SEQ ID NO: 638:
30
             (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 66 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 638:
35
      Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly
      Ser Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe
40
                        25
      Thr Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile
45
      Ile Tyr Leu Asp Gln Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile
                              55
      His Arg
50
       65
       (2) INFORMATION FOR SEQ ID NO: 639:
 55
              (i) SEQUENCE CHARACTERISTICS:
                    (A) LENGTH: 51 amino acids
                    (B) TYPE: amino acid
                    (D) TOPOLOGY: linear
 60
              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 639:
```

| | Arg Thr | Ser S | Ser V | al G | lu G | ly L | .eu (| Cys (| Glu (| Sly | Ile | Gly. | Ala (| Hy I 15 | Leu |
|-----|--------------------------|--------------------|------------------------------|-----------------------------------|-----------------------|------------------------------|-----------------------------|----------------------------|-----------|-------|-----------|-----------|-------------|------------|-----------|
| 5 | Val Asp | Val A | Ala I 20 | le T | rp V | al G | sly T | Thr 3 25 | Cys : | Ser | Asp ' | Tyr | Pro I 30 | ys C | Sly |
| 10 | Asp Ala Leu Pro 50 | 35 | Thr G | ily T | rp A | sn S | Ser \ 40 | Jal : | Ser . | Arg | Ile | Ile 45 | Ile (| 3lu € | 3lu |
| 15 | (2) INFO | RMAT | ION E | FOR S | EQ I | D NO | o: 6 | 40: | | | | | | | |
| 20 | | (i) S | (A (B (D |) LET) TY!) TO! | IGTH PE: « POLO | · 26 amin GY: | ami c ac line | no a id ar | acid | | : 64(| o : | | | |
| 25 | Thr Lys | Lys | Glu A | Asn C 5 | ys A | Arg | Pro | Ala | Ser 10 | Leu | Met | Asn | Ile | Asp 15 | Thr |
| | Lys Ile | Leu | Asn 1 20 | Lys I | le I | Leu | Met | Asn 25 | Gln | | | | | | |
| 30 | | | | | | | | | | | | | | | |
| 35 | (2) INF | ORMAT (i) S (xi) | EQUE () () () () | INCE (A) LE B) TY D) TC | CHAR NGTH PE: | ACTE : 2: ami: XGY: | ERIS 14 a no a lin | rics mino cid ear | aci | |): 64 | 1: | | | |
| 40 | Met Cys 1 | : Asn | Leu | Pro 5 | Ile | Lys | Val | Val | Суs 10 | | Ala | Asn | Ala | Glu 15 | Tyr |
| 45 | Met Ser | r Pro | Ser 20 | Gly | Lys | Val | Pro | Kaa 25 | Xaa | His | : Val | . Gly | Asn 30 | Gln | Val |
| 7.7 | Val Sen | c Glu 35 | Leu | Gly | Pro | Ile | Val 40 | | Phe | · Val | . Lys | Ala 49 | Lys | Gly | His |
| 50 | Ser Lei 51 | | Asp | Gly | Leu | Glu 55 | | Val | Gln | Lys | Ala 60 | | ı Met | Lys | Ala |
| | Tyr Me | t Glu | Leu | Val | Asn | Asn | Met | Leu | Let | Thi | s Al: | ı Gli | i Leu | . Tyr | Leu ac |
| 60 | aky die | r irə | 1771 100 | | 1:;; | 112 | r (j.e.r | : Mar 101 | | : 12 | y 1++ | (A. | 1 .771 | .: | i liy |

WO 98/54963 PCT/US98/11422

| | Gln | Trp | Glu 115 | Val | Lys | Arg | Lys | Xaa 120 | Lys | Ala | Ile | Gly | Trp 125 | Gly | Lys | Lys | | |
|----|------------|------------|-------------|------------|-----------------------|---------------|--------------|----------------|--------------|------------|------------|------------|------------|------------|------------|--------------|-----|--|
| 5 | Thr | Leu 130 | Asp | Gln | Val | Leu | Glu 135 | Asp | Val | Asp | Gln | Cys 140 | Cys | Gln | Ala | Leu | | |
| | Ser 145 | Gln | Arg | Leu | Gly | Thr 150 | Gln | Pro | Tyr | Phe | Phe 155 | Asn | Lys | Gln | Pro | Thr 160 | | |
| 10 | Glu | Leu | Asp | Ala | Leu 165 | Val | Phe | Gly | His | Leu 170 | Tyr | Thr | Ile | Leu | Thr 175 | | | |
| 15 | Gln | Leu | Thr | Asn 180 | Asp | Glu | Leu | Ser | Glu 185 | Lys | Val | Lys | Asn | Tyr 190 | Ser | Asn | | |
| • | Leu | Leu | Ala 195 | | СУз | Arg | Arg | Ile 200 | | Gln | His | Τγr | Phe 205 | | Asp | Arg | | |
| 20 | Gly | Lys 210 | | Arg | Leu | Ser | | | | | | | | | | | | |
| 25 | (2) | INF | | SEQU | I FOR JENCE (A) | E CHA | rac'i | rERIS | STICS | 5: | ds | | | | | | | |
| 30 | | | (xi) | | (B) ' (D) ' | TYPE TOPO: | : am LOGY | ino a : lir | acid near | | | D: 64 | 12 : | | | | | |
| | Met 1 | | | | ı Pro | | | | | | s Arg | | | n Ala | a Gla | ı Tyr | | |
| 35 | Met | i Sei | r Pro | Sei 20 | | / Ly: | s Val | l Pro | 25 25 | | a His | s Val | l Gly | ASI 30 | | n Val | | |
| 40 | Va: | l Se: | r Glu 35 | | u Gly | y Pro | o Ile | e Val | | n Phe | e Va | l Ly: | 5 | | | | | |
| | (2 |) IN | FORM | atio | N FO | R SE | Q ID | NO: | 643 | : | | | | | | | | |
| 45 | | | (i) | SEQ | (B) | LENC TYPE | TH: : an | 44 a nino | mino acid | aci I | .ds | | | | | | | |
| 50 | Dh | 0 1/2 | | | QUEN | ICE E | ESCR | | ON: | SEQ | | | | u 31 | u Gl | u Val | | |
| | | 1 | | | | 5 | | | | 1 | 0 | | | | 1 | .5 et Leu | | |
| 55 | | | | 2 | .u Me !O .u L∈ | | | | 2 | 5 | | | | | 0 | | - , | |
| 60 | ₽€ | il II: | | .a G1 | . 4 1-6 | .u .y | | | .0 | , C) | | | - | | | | | |

| | (2) INFORMATION FOR SEQ ID NO: 644: |
|-----|---|
| 5 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 51 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 644: |
| 10 | Leu Gln Trp Cys Asp Glu Ala Thr Val Gly Xaa Ile Thr His Xaa Arg 1 5 10 15 |
| 15 | Tyr Gly Ser Pro Tyr Pro Trp Pro Leu Xaa His fle Leu Ala Tyr Gln 20 25 30 |
| 1.5 | Lys Gln Trp Glu Val Lys Arg Lys Xaa Lys Ala Ile Gly Trp Gly Lys 35 40 45 |
| 20 | Lys Thr Lou 50 |
| 25 | (2) INFORMATION FOR SEQ ID NO: 645: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 43 amine acids (B) TYPE: amine acid |
| 30 | (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 645: |
| | Asp Gln Val Leu Glu Asp Val Asp Gln Cys Cys Gln Ala Leu Ser Gln 1 5 10 15 |
| 35 | Arg Leu Gly Thr Gln Pro Tyr Phe Phe Asn Lys Gln Pro Thr Glu Leu 20 25 30 |
| 40 | Asp Ala Leu Val Phe Gly His Leu Tyr Thr Ile 35 40 |
| | (2) INFORMATION FOR SEQ ID NO: 646: |
| 45 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 41 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 50 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 646: |
| | Leu Thr Thr Gln Leu Thr Asn Asp Glu Leu Ser Glu Lys Val Lys Asr 1 5 10 15 |

No. of the A. Committee A.

| | (2) INFORMATION FOR SEQ ID NO: 647: |
|----|---|
| 5 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 70 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 647: |
| 10 | Met Xaa Xaa Xaa Asn Ser His Ile Thr Ile Fhe Thr Leu Asn Val Asn 1 5 10 15 |
| 15 | Gly Leu Asn Ala Pro Asn Glu Arg His Arg Leu Ala Asn Trp Ile Gln 20 25 30 |
| 10 | Ser Gln Asp Gln Val Cys Cys Ile Gln Glu Thr His Leu Thr Gly Arg 35 40 45 |
| 20 | Asp Thr His Arg Leu Lys Ile Lys Gly Trp Arg Lys Ile Tyr Gln Ala 50 55 60 |
| | Ash Gly Lys Glh Lys Lys 65 70 |
| 25 | (2) THEODISTICS FOR SECO ID NO. 648. |
| | (2) INFORMATION FOR SEQ ID NO: 648: |
| 30 | (i) SEQUENCE CHARACTERISTICS: (A) LEMGTH: 28 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 648: |
| 35 | Phe Thr Leu Asn Val Asn Gly Leu Asn Ala Pro Asn Glu Arg His Arg 1 5 10 15 |
| | Leu Ala Asn Trp Ile Gln Ser Gln Asp Gln Val Cys |
| 40 | 20 25 |
| | (2) INFORMATION FOR SEQ ID NO: 649: |
| 45 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 17 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear |
| 50 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 649: |
| 50 | Thr His Leu Thr Gly Arg Asp Thr His Arg Leu Lys Ile Lys Gly Trp 1 5 10 15 |
| 55 | Arg |
| | |
| 60 | (2) INFORMATION FOR SEQ ID NO: 650: |

| | (i) SEQUENCE CHARACTERISTICS: |
|----|---|
| | (A) LENGTH: 14 amino acids (B) TYPE: amino acid |
| | (D) TOPOLOGY: linear |
| 5 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 650: |
| | Gly Trp Arg Lyc Ile Tyr Gln Ala Asn Gly Lys Gln Lys Lys 1 5 10 |
| 10 | |
| | (II) INFORMATION FOR SEQ ID NO: 651: |
| 15 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 54 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (x:) SEQUENCE DESCRIPTION: SEQ ID NO: 651: |
| 20 | The Tyr His Leu His Ser Trp The Phe Phe His Phe Lys Arg Ala Ph- |
| 20 | 1 c 10 15 |
| 25 | Cys Met Cys Phe Ile Thr Met Lys Val Ile His Ala His Cys Ser Lys 20 25 30 |
| | Leu Arg Lys Cys Xaa Asn Ala Gln Ile Ser Val Phe Cys Thr Thr Leu 35 40 45 |
| 30 | Thr Ala Ser Tyr Pro Thr 50 |
| 35 | (2) IMFORMATION FOR SEQ ID NO: 652: |
| 40 | (i) SEQUENCE CHAPACTERISTICS: (A) LENGTH: 23 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 652: . |
| | The Tyr His Lea His Ser Top The Phe Phe His Pho Lys Aig Ala Pho 1 5 10 15 |
| 45 | Cys Mot Cys Phe 13e Thr Met 20 |
| 50 | (2) INFORMATION FOR SEQ ID NO: 653: |
| | (i) SEQUENCE CHARACTERISTICS: |
| | |
| 60 | - Type Mile (1) - Hile Ala Hile (no. New Type Lee, Arthogo (1) - Maa And Ala 2 |
| | |

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Gln Ile Ser Val Phe Cys Thr Thr Leu Thr Ala Ser Tyr Pro Thr
                 20
                          25
 5
     (2) INFORMATION FOR SEQ ID NO: 654:
            (1) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 58 amino acids
10
                  (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 654:
     Trp Asn Leu Trp Tyr Phe Gln Arg Leu Arg Leu Pro Ser Ile Leu
15
                                       10
     Pro Gly Leu Val Leu Ala Ser Cys Asp Gly Pro Ser Xaa Ser Gln Ala
                     25
20
     Pro Ser Pro Trp Leu Thr Pro Asp Pro Ala Ser Val Gln Val Arg Leu
                        40
     Leu Trp Asp Val Leu Thr Pro Asp Pro Asn
                 55
        5.0
25
     (2) INFORMATION FOR SEQ ID NO: 655:
30
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 54 amino acids
                   (B) TYPE: amino acid
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 655:
35
     Gln Arg Gly Ile Tyr Arg Glu Ile Leu Phe Leu Thr Met Ala Ala Leu
                                       10
     Gly Lys Asp His Val Asp Ile Val Ala Phe Asp Lys Lys Tyr Lys Ser
40
                                   25
                                            30
     Ala Phe Asn Lys Leu Ala Ser Ser Met Gly Lys Glu Glu Leu Arg His
                               40
45
     Arg Arg Ala Gln Met Pro
       50
50
     (2) INFORMATION FOR SEO ID NO: 656:
            (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 23 amino acids
                   (B) TYPE: amino acid
55
                  (D) TOPOLOGY: linear
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 656:
     Trp Asn Leu Leu Trp Tyr Phe Gln Arg Leu Arg Leu Pro Ser Ile Leu
                                10
60
```

Pro Gly Leu Val Leu Ala Ser 20 681

| 5 | (2) | INF | ORMA | ncin | FOR | SEQ | ID i | '10: (| 557: | | | | | | | |
|----|-----------|-----------|-------------|------------|----------------------|-------------------------------------|---------------------|---------------------|--------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|
| 10 | | | | (| A) L B) T D) T | CHA ENGT YPE: OPOL E DE | H: 1 ami CGY: | 91 a no a lin | mino cid ear | aci | | : 65 | V : | | | |
| 15 | Glu 1 | Assp | Азр | Gly | Phe 5 | Asn | Arq | Ser | Ile | His | €lu | Val | Ile | Leu | Ly3 15 | Asn |
| | lle | Thr | Trp | Tyr 20 | Ser | Glu | Arg | Va1 | Leu 25 | Thr | Glu | He | Ser | Leu 30 | Gly | Ser |
| 20 | Leu | Lou | 11e 35 | Leu | Val | Val | Ile | Arg 40 | Thr | Ile | Gln | Tyr | Asn 45 | Met | Thr | Arg |
| 25 | Thr | Arg 50 | App | Lys | Ţ | Leu | His 55 | Thr | Asn | Cys | Leu | Ala 60 | Ala | Leu | Ala | Asn |
| ش) | Met 65 | Ser | Ala | Gln | Phe | Arg 70 | Ser | Leu | His | Gln | Tyr 75 | Ala | Ala | Gln | Arg | 11e 80 |
| 30 | Ile | Ser | Lea | Phe | ೨೯೯ 85 | Legu | Leu | Ser | Lys | Lys 90 | His | Asn | Lys | Val | Leu 95 | Glu |
| | Gln | Ala | Thr | Gln 100 | Ser | Leu | Arg | Gly | ೧೯۲ 105 | Leu | Ser | Ser | Asn | Asp 110 | Val | Pro |
| 35 | Leu | Pro | Anti 115 | Tyr | Ala | Gln | Asp | Leu 120 | Asn | Val | Ile | Glu | Glu 125 | Val | Ile | Arg |

Gln Fhe Ard Thr His Pro Ser Fhe Gln Asp Ile Met Gln Ash Ile Asp 45

130 135 140

145 150 155

Met Met Leu Glu Ile Ile Asn Ser Cys Leu Thr Asn Ser Leu His His

Ash Pro Ach Leu Val Tyr Ala Leu Leu Tyr Lys Ard Asp Leu Phe Glu

Leu Val Ile Ser Phe Phe Ser Ser Arg Leu Leu Gin Ala Gly Ser 180 185 190

(2) INFORMATION FOR SEQ ID NO: 658:

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|----|----------|------------|-----------|-------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|--------------------|-----------|-----|-------|-----------|-----------|-----------|-----|--------------|
| 5 | | Thr Leu | | 20 | | | Arg | Val | Leu 25 | Thr | Glu | Ile | Ser | Leu 30 | Gly | Ser | |
| 10 | (2) | INFO | ORMA: | rion | FOR | SEQ | ID 1 | NO: (| 659: | | | | | | | | |
| 15 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | H: 5 ami OGY: | 3 am no a lin | | acid | | : 65 | 9 : | | | | |
| 20 | Arg 1 | Thr | Ile | Gln | Tyr 5 | Asn | Met | Thr | Arg | Thr 10 | Arg | Asp | Lys | Tyr | Leu 15 | His | |
| | Thr | Asn | Cys | Leu 20 | Ala | Ala | Leu | Ala | Asn 25 | Met | Ser | Ala | Gln | Phe 30 | Arg | Ser | |
| 25 | Leu | His | Gln 35 | Tyr | Ala | Ala | Gln | Arg 40 | Ile | Ile | Ser | Leu | Phe 45 | Ser | Leu | Leu | |
| 30 | Ser | Lys 50 | Lys | His | Asn | | | | | | | | | | | | |
| 35 | (2) | | (i) : | SEQUI () () | ENCE A) L B) T D) T | CHAI ENGTI YPE: OPOLO | RACTI H: 5 ami: OGY: | ERIS' 6 am no a lin | TICS ino cid | acid | | . 661 | n . | | | | |
| 40 | Ser 1 | Cys | | | | | | | | | | | | Val | Tyr 15 | Ala | |
| 45 | Leu | Leu | Tyr | Lys 20 | Arg | Asp | Leu | Phe | Glu 25 | Gln | Phe | Arg | Thr | His 30 | Pro | Ser | |
| | Phe | Gln | Asp 35 | Ile | Met | Gln | Asn | Ile 40 | Asp | Leu | Val | lle | Ser 45 | Phe | Phe | Ser | |
| 50 | Ser | Arg 50 | Leu | Leu | Gln | Ala | Gly 55 | Ser | | | | | | | | | |
| 55 | (2) | INFO | | | | | | | 561: TICS | : | | | | | | | . - . |
| 60 | | | | () () | A) LI B) T | ENGTI YPE : | H: 3 ami | | ino a | | 3 | | | | | | |

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| | | | (xi) | SEQ | UENC: | E DE | SCRI | PTIC | N: S | EQ I | D NO | : 66 | 1: | | | |
|----|-----------|-----------|------------|------------|--------------|--------------|-------------|-----------------------------|------------|-----------|--------------|-----------|------------|------------|-----------|-----------|
| 5 | Lys 1 | Lys | His | Asn | Lys 5 | Val | Leu | Glu | Gln | Ala 10 | Thr | Gln | Ser | Leu | Arg 15 | Gly |
| | Ser | Leu | Ser | Ser 20 | Asn | qzA | Val | Pro | Leu 25 | Pro | Asp | Tyr | Ala | Gln 30 | App | |
| 10 | (2) | INF | ORMA | rion | FCR | SEQ | ID 1 | NO: 6 | 562 : | | | | | | | |
| | | | (i) | SEQU. | ENCE | СНА | RACT | ERI <i>S</i> | rics | : | | | | | | |
| 15 | | | (xi) | (| B) T D) T | YPE: OPOL | ami OGY: | 25 a no a lin PTIO | cid ear | | | : 66 | 2 : | | | |
| 20 | Met 1 | Ala | Asp | ïle | Gln 5 | Thr | Glu | Arg | Ala | Туг 10 | Glii | Ьys | Gln | Pro | Thir | Ile |
| | Phe | Gln | Asn | Lys 20 | Lys | Arg | Val | Leu | Leu 25 | Gly | Glu | Thr | Gly | Lys 30 | Glu. | Lys |
| 25 | Leu | Pro | Arg 35 | Val | Thr | Asn | Lys | Asn 40 | Ile | Gly | Leu | Gly | Phe 45 | Lys | Asp | Thr |
| 30 | Pro | Arg 50 | Arg | Leu | Leu | Arg | Gly 55 | Thr | Tyr | Ile | Asp | Lys 60 | Lys | Cys | Pro | Phe |
| | Thr 65 | Gly | Asn | Va! | Ser | Ile 70 | Arg | Gly | Arg | Ile | Leu 75 | Ser | Gly | Val | Val | Thr 80 |
| 35 | Gln | Asp | Glu | Asp | Ala 85 | Glu | Asp | Ніз | Cys | His 90 | Pro | Pro | Arg | Leu | Ser 95 | Ala |
| | Leu | His | Pro | Gln 100 | Val | Gln | Pro | Leu | Arg 105 | Glu | Ala | Pro | Gln | Glu 110 | His | Val |
| 40 | Cys | Thr | Pro 115 | Val | Pro | Leu | Leu | Gln 120 | Gly | Arg | Pro | Asp | Arg 125 | | | |
| 45 | (2) | IMF(| ORMA: | rion | FOR | SEQ | to: | NO: 4 | 563: | | | | | | | |
| 50 | | | (i) . | (| A) L P) T | ENGT YPE: | H: 7 ami | 9 am no a | ino cid | | S | | | | | |
| 50 | | | (xi) | | | | | lin PTI | | EÇ TI | D N O | : 65 | 3 : | | | |
| | • • | | | | | | | | - | | | - | | | | |
| | **. | Ţ | | ** | ~ | * | | | ,, , | ~ 1 | -, | | | ~ . | | |
| 60 | 71115 | L+*11 | ವಿಚ್ ೨೯ | F Z 7 | - y's | rne | AI J | 49 ASD | 11 | -111 | ~ *** | +197 | Aup 4% | 1 | . 11 | LILE |

 $\{ (S_{\alpha}) = \{ (C_{\alpha}) \in \Delta_{\alpha} \} \quad \text{ and } \alpha \in \Delta_{\alpha}$

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Val Gly Slu Sys Arg Pro Leu Sar Lys Tor Val Arg Role Arm Val Leu
 5
      Dys Val The Dys Ala Ala Gly The Dys Dys Glm She Gub Dys She
10
      (1 DEFORMATION FOR SEQ ID NO: 664:
             (i) SEQUENCE CHARACTERISTICS:
                   (A) LEWIH: 30 amino acids
                    (B) TFPE: amino acid
15
                   (D) TOPOLOGY: linear
              MAN SEQUENCE DESCRIPTION: SEQ ID NO: 664:
     Met Als Asp Dle Gln Thr Glu Arg Ala Tyr Gln Lys Gln Fr: Thr Dle
1 5 13
20
      The Glm Ash Dys Dys Arg Val Leu Leu Gly Glu thr Gly Dys
25
     (C DEFORMATION FOR SEQ ID NO: 665:
              i seguence cheracteristics:
                   (A) LENGTH: 58 amino acids
30
                    (3) TIPE: amino acid
                   (D) TSPOLOGY: linear
             (ML) SEQUENCE DESCRIPTION: SEQ ID NO: 666;
      Dis Leu Dru Arg Val Thr Ash Dys Ash Tue Bly Leu Bly Rhe Dys Asp
35
      The Pro Ang Ang Leu Seu Ang Gly The Tyr Ile Ang Lys Lys Cys Fro
20 25 30
40
      Rhe Thr Gly Ash Val Ser Ile Arg Gly Arg Ile Leu Ser Gly Val Val
      Thr Glm Asp Glu Asp Ala Glu Asp His Cys
          Ξ C
45
      (2) DEFORMATION FOR SEQ ID NO: 665:
50
            (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 38 amino acids
                    (B) TYPE: amino acid
                   (D) POPOLOGY: linear
             (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 666:
55
      His Cys His Pro Pro Arg Leu Ser Ala Leu His Pro Glm Val Gun Pro 💎 🕟 🥕
      Leu Arg Glu Ala Pro Gln Glu His Tal Cys Thr Pro Val Pro Leu Leu
60
         20 25 31
```

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Gln Gly Arg Pro Asp Arg
                                        35
   5
                 (2) INFORMATION FOR SEQ ID NO: 667:
                                      (i) SEQUENCE CHARACTERISTICS:
10
                                                        (A) LENGTH: 36 amino acids
                                                           (B) TYPE: amino acid
                                                           (D) TOPOLOGY: linear
                                      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 667:
15
                 Met Lys Met Gln Arg Thr Ile Val Ile Arg Arg Asp Tyr Leu His Tyr
                   1 5
                                                                                       10 15
                 Ile Arg Lys Tyr Asn Arg Phe Glu Lys Arg His Lys Asn Met Ser Val
20
                His Leu Ser Pro
25
                (2) INFORMATION FOR SEQ ID NO: 668:
                                      (i) SEQUENCE CHARACTERISTICS:
                                                         (A) LENGTH: 43 amino acids
30
                                                           (B) TYPE: amino acid
                                                          (D) TC-POLOGY: linear
                                      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 668:
                Cys Phe Arg Asp Val Gln Ile Gly Asp Ile Val Thr Val Gly Glu Cys
35
                 Arg Pro Leu Ser Lys Thr Val Arg Phe Asn Val Leu Lys Val Thr Lys
                                                                                                             25
40
                Ala Ala Gly Thr Lys Lys Gln Phe Gln Lys Phe
45
                (2) INFORMATION FOR SEQ ID NO: 669:
                                      (i) SEQUENCE CHARACTERISTICS:
                                                          (A) LENGTH: 33 amino acids
                                                          (B) TYPE: amino acid
50
                                                         (D) TOPOLOGY: linear
                                     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 669:
                 the control of the co
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| 5 | (2) | INF | ORMA' | ricn | FOR | SEQ | ID I | NO: | 670: | | | | | | | |
|----|-----------|-----------|----------------|-----------|----------------------|-----------------------|---------------------|---------------------|-------------------|-----------|------|-----------|-----------|-----------|-----------|-----|
| - | | | (i) | (| A) L B) T | | H: 6 ami | 0 am no a | onin cid | : acid | s | | | | | |
| 10 | | | (xi) | SEQ | | | | | | EQ I | ои д | : 67 | 0: | | | |
| | lle 1 | Phe | Tyr | Asp | Ser 5 | Asp | Trp | Asn | Pro | Thr 10 | Val | Asp | Gln | Gln | Ala 15 | Met |
| 15 | Asp | Arg | Ala | His 20 | Arg | Leu | Gly | Gln | Thr 25 | Lys | Gln | Val | Thr | Val 30 | Tyr | Arg |
| 20 | Leu | Ile | Cys 35 | Lys | Gly | Thr | Ile | Glu 40 | Glu | Arg | Ile | Leu | Gln 45 | Arg | Ala | Lys |
| | Glu | Lys 50 | Ser | Glu | Ile | Gln | Arg 55 | Met | Val | Ile | Ser | Gly 60 | | | | |
| 25 | (2) | INF | OR MA | ricu | FOR | SEQ | ID I | V i⊃: ∣ | 671: | | | | | | | |
| 30 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 6 ami CGY: | 7 am no a lin | ino cid ear | acid | | : 67 | 1: | | | |
| 35 | Thr 1 | Arg | Met | Ile | Asp 5 | Leu | Leu | Glu | Glu | Tyr 10 | Met | Val | Тут | Arg | Lys 15 | His |
| | Thr | Tyr | Xaa | Arg 20 | Leu | Asp | GĮy | Ser | Ser 25 | Lys | Ile | Ser | Glu | Arg 30 | Arg | Asp |
| 40 | Met | Val | Ala 35 | Asp | Phe | Gln | Asn | Arg 40 | Asn | Asp | Ile | Phe | Val 45 | Phe | Leu | Leu |
| 45 | Ser | Thr 50 | Arg | Ala | Gly | Gly | Leu 55 | Gly | Ile | Asn | Leu | Thr 60 | Ala | Xaa | Asp | Thr |
| | Val 65 | His | Phe | | | | | | | | | | | | | |
| 50 | (2) | INF | OR MA ' | ricii | FOR | SEQ | ID 1 | VO: (| 672: | | | | | | | |
| 55 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | H: 3 ami OGY: | 2 am no a lin | ino cid ear | acid | | : 67: | 2: | | | |
| 60 | Ile 1 | Phe | Tyr | Asp | Ser 5 | Asp | Trp | Asn | Pro | Thr | Val | Asp | Gln | Gln | Ala 15 | Met |

Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg 25 5 10 (2) INFORMATION FOR SEQ ID No: 673: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid 15 (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 673: Val Tyr Arg Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln 10 20 Arg Ala Lys Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly 25 25 (2) INFORMATION FOR SEQ ID NO: 674: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 33 amino acids 30 (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 674: Thr Arg Met Ile Asp Leu Leu Glu Glu Tyr Met Val Tyr Arg Lys His 35 10 Thr Tyr Xaa Arg Leu Asp Gly Ser Ser Lys Ile Ser Glu Arg Arg Asp 20 25 40 Met 45 (2) INFORMATION FOR SEQ ID NO: 675: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 38 amino acids (B) TYPE: amino acid 50 (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 675: the second of th Kaa App Thr Val His Phe

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| 5 | (2) INFORMATION FOR SEQ ID NO: 676: |
|----|---|
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 37 amino acids (B) TYPE: amino acid |
| 10 | (D) TOPCLCGY: linear |
| 10 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 676: |
| | Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met 1 5 10 15 |
| 15 | Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg |
| 20 | Leu Ile Cys Lys Gly 35 |
| | (2) INFORMATION FOR SEQ ID NO: 677: |
| 25 | (i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 37 amino acids(B) TYPE: amino acid(D) TOPOLCGY: linear |
| 30 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 677: |
| 30 | Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met 1 10 15 |
| 35 | Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg 20 25 30 |
| | Leu Ile Cys Lys Gly 35 |
| 40 | |
| | (2) INFORMATION FOR SEQ ID NO: 678: |
| 45 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 29 amino acids (B) TYPE: amino acid (D) TOPOLCGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 678: |
| 50 | Arg Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln Arg Ala 1 5 10 15 |
| 55 | Lys Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly 20 25 |
| | (2) THEODISMISSING CO. TO NO. (70) |
| | (2) INFORMATION FOR SEQ ID NO: 679: |
| 60 | (i) SEQUENCE CHARACTERISTICS: |

| _ | | | (x1) | (| B) T D) T | YPE: Opol | ami: CGY: | 64 a no a lin | cid ear | | | : 67 | 9 : | | | |
|----|------------|------------|------------|------------|--------------|--------------|--------------|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | M⊖t 1 | Ser | Leu | His | Gly 5 | Lys | Arg | Lys | Glu | Ile 10 | Tyr | Lys | Tyr | Glu | Ala 15 | Pro |
| 10 | Trp | Thr | Val | Tyr 20 | Ala | Met | Asn | Trp | Ser 25 | Val | Arg | Pro | Asp | Lys 30 | Arg | Phe |
| | Arg | Leu | Ala 35 | Leu | Gly | Sex | Phe | Val 40 | Glu | Glu | Tyr | Asn | Asn 45 | Lys | Val | Gln |
| 15 | Leu | Val 50 | Gly | Leu | Asp | Blu | G1u 55 | Ser | Ser | Glu | Phe | 11e 60 | Cys | Arg | Asn | Thr |
| 20 | Phe 65 | Asp | Ніѕ | Pro | Tyr | Pro 70 | Thr | Th.r | Lys | Leu | Меt 75 | Trp | Ile | Pro | Asp | Thr 80 |
| | Lys | Gly | Val | Tyr | Pro 85 | Asp | Leu | Leu | Ala | Thr 90 | Ser | Gly | Asp | Tyr | Leu 95 | Arg |
| 25 | Val | Trp | Arg | Val 100 | Gly | Glu | Thr | Glu | Thr 105 | Arg | Leu | Glu | Cys | Leu 110 | Leu | Asn |
| | Asn | Asn | Lys 115 | Asn | Ser | Asp | Phe | Cys 120 | Ala | Pro | Leu | Thr | Ser 125 | Phe | Asp | Trp |
| 30 | Asn | Glu 130 | Val | Asp | Pro | Tyr | Leu 135 | Leu | Gly | Thr | Ser | Ser 140 | Ile | Asp | Thr | Thr |
| 35 | Cys 145 | Thr | Ile | Trp | Gly | Leu 150 | Glu | Thr | Gly | Gln | Val 155 | Leu | Gly | Arg | Val | Asn 160 |
| | Leu | Val | Ser | Gly | His 165 | Val | Lys | Thr | Gln | Leu 170 | Ile | Ala | His | Asp | Lys 175 | Glu |
| 40 | | | | 180 | | | | | 185 | | | | | Asp 190 | | |
| 15 | | | 195 | | | | | 200 | | | | | 205 | Leu | | |
| 45 | | 210 | | | | | 215 | | | | | 220 | | His | | |
| 50 | 225 | | | | | 230 | | | | | 235 | | | Ala | | 240 |
| | Ala | Met | Asp | Gly | Met 245 | Glu | Val | Val | Ile | 150 250 | Asp | Val | Yrq | Val | Pro 255 | Ala |
| | | | | | | | | | | | | | 1 2+ | | | |
| 60 | A: 1 | i .vi | | | **** | (T) | | | · | ** * * | 11. | :1:: | T-s | ten | Ari | Thi |

| | | 290 | | | | | 295 | | | | | 300 | | | | | | |
|----|------------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|--------------|------------|------------|-----------|------------|------------|------------|------------|--|--|
| 5 | Leu 305 | Ser | Trp | Pro | Thr | Gln 310 | Leu | Xaa | Gly | Glu | Ile 315 | | Asn | Val | Gln | Trp 320 | | |
| | Ala | Ser | Thr | Gln | Pro 325 | Glu | Leu | Ser | Pro | Ser 330 | Ala | Thr | Thr | Thr | Ala 335 | Trp | | |
| 10 | Arg | Tyr | Ser | Glu 340 | Cys | Ser | Val | Gly | Gly 345 | Ala | Val | Pro | Thr | Arg 350 | Gln | Gly | | |
| | Leu | Leu | Tyr 355 | Phe | Leu | Pro | Leu | Pro 360 | His | Pro | Gln | Ser | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | |
| | (2) | | ORMA1 | | | | | | | | | | | | | | | |
| 20 | | | | (. (| A) L B) T D) T | ENGT YPE: OPOL | H: 1 ami OGY: | 36 a no a lin | | aci | | : 68 | 0 : | | | | | |
| 25 | Met 1 | Ser | Leu | His | Gly 5 | Lys | Arg | Lys | Glu | Ile 10 | Tyr | Lys | Tyr | Glu | Ala 15 | Pro | | |
| 30 | Trp | Thr | Val | Tyr 20 | Ala | Met | Asn | Trp | Ser 25 | Val | Arg | Pro | Asp | Lys 30 | Arg | Phe | | |
| | Arg | Leu | Ala 35 | Leu | Gly | Ser | Phe | Val 40 | Glu | Glu | Tyr | Asn | Asn 45 | Lys | Val | Gln | | |
| 35 | Leu | Val 50 | Gly | Leu | Asp | Glu | Glu 55 | Ser | Ser | Glu | Phe | Ile 60 | Cys | Arg | Asn | Thr | | |
| | Phe 65 | Asp | His | Pro | Tyr | Pro 70 | Thr | Thr | Lys | Leu | Met 75 | Trp | Ile | Pro | Asp | Thr 80 | | |
| 40 | Lys | Gly | Val | Tyr | Pro 85 | Asp | Leu | Leu | Ala | Thr 90 | Ser | Gly | qzA | Tyr | Leu 95 | Arg | | |
| 45 | Val | Trp | Arg | Val 100 | Gly | Glu | Thr | Glu | Thr 105 | | | | Cys | | Leu | Asn | | |
| | Asn | Asn | Lys 115 | Asn | Ser | Asp | Phe | Суs 120 | Ala | Pro | Leu | Thr | Ser 125 | Phe | Asp | Trp | | |
| 50 | Asn | Glu 130 | Val | Asp | Pro | Tyr | Leu 135 | Leu | | | | | | | | | | |
| 55 | (2) | | ORMAT | SEQUE | ENCE A) Li | СНА | RACTI | ERIS 40 a | rics mino | | ds | | | | | | | |
| 60 | | | (xi) | | | OPOLA E DES | | | ear N: SI | EQ II | ON C | : 681 | l: | | | | | |

 $(sh_{k}) = (-\epsilon)^{-1} \otimes (\mathcal{L}_{k}) = (-\epsilon)^{-1} \otimes (\Delta)$

| | Ser 1 | Phe | Asp | Trp | Asn 5 | Glu | Val | Asp | Pro | Tyr 10 | Leu | Leu | Jly | Thr | Ser 15 | Ser |
|-----|-----------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|--------------------|-----------|-----------|------------|------------|------------|-----------|-----------|
| 5 | Ile | Asp | Thr | Thr 20 | Cys | Thr | He | Trp | Gly 25 | Leu | Glu | Thr | Gly | Gln 30 | Val | Leu |
| 10 | Gly | Arg | Val 35 | Asn | Leu | Val | Ser | Gly 40 | His | Val | Lys | Thr | Gln 45 | Leu | Ile | Ala |
| | His | Asp 50 | Lys | Glu | Val | Tyr | Asp 55 | He | Ala | Phe | Ser | Arg 60 | Ala | Gly | Gly | Gly |
| 15 | Arg 65 | Asp | Met | Phe | Ala | Jer 70 | Val | Gly | Ala | Asp | 01y 75 | Ser | Val | Arg | Met | Phe 80 |
| | Апр | Letu | Arg | His | Leu 85 | Glu | His | Ser | Thr | 11e 90 | He | Tyr | Glu | Asp | Pro 95 | Gln |
| 20 | His | His | Pro | Leu 100 | Leu | Arg | Leu. | Cys | Trp 105 | Asn | Lys | Gln | Asp | Pro 110 | Asn | Туг |
| 25 | Leu | Ala | Thr 115 | Met | Ala | Met | Asp- | Gly 120 | Met | Glu | Val | Val | Ile 125 | Leu | Asp | Val |
| | Arg | Val 130 | Pro | Ala | His | Leu | Жаа 135 | Pro | Gly | Thr | Thr | 11e 140 | | | | |
| 30 | (2) | | ORMAT | | | | | | | | | | | | | |
| 35 | | | (xi) | (| A) L B) T D) T | ENGT YPE: CPOL | H: l ami OGY: | 70 a no a lin | mino cid ear | aci | | : 681 | 2: | | | |
| 40 | Val 1 | Gly | Ala | Asp | Gly 5 | Ser | Val | Arg | Met | Phe 10 | Asp | Leu | Arg | His | Leu 15 | Glu |
| | His | Ser | Thr | 11e 20 | Ile | Tyr | Glu | Asp | Pro 25 | Gln | His | His | Pro | Leu 30 | Lēu | Ara |
| 45 | Leu | Cys | Trp | Asn | Lys | Oln | Asp | Pro | Asn | Τγτ | Leu | Ala | Thr 45 | Met | Ala | Met |
| 50 |) co | ~ 1 | 34 | Clin | Val | Val | Ile | Leu | Asp | Val | Arg | Val | Pro | Ala | His | T |
| | nsp | 50 50 | .nec | 0101 | | | 55 | | | | | 60 | | | | Dea |
| .,0 | | | | | | 11e 70 | | His | Val | Jer | Met 75 | | Leu | Leu | Gly | |
| | Xaa 65 | 50 | Gly | Thr | Thr | 70 | Glu | | | | 75 | Ala | | | | Pro |

| | | | 115 | | | | | 120 | | | | | 125 | | | |
|----|------------|------------|------------|------------|---------------|-------------|--------------|---------------------|--------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Thr | Gln 130 | | - Glu | Leu | Ser | Pro 135 | | Ala | Thr | Thr | Thr | | Trp | Arg | Tyr |
| J | Ser 145 | Glu | Cys | Ser | Val | Gly 150 | | Ala | Val | Pro | Thr 155 | | Gln | Gly | Leu | Leu 160 |
| 10 | Tyr | Phe | Leu | . Pro | Leu 165 | | His | Pro | Gln | Ser 170 | | | | | | |
| 15 | (2) | INF | | | ENCE (A) L | CHA ENGT | RACT H: 2 | ERIS | TIC3 minc | | ds | | | | | |
| 20 | | | (xi) | | D) T | OPOL | .CGY : | no a lin PTIO | ear | EQ I | D NO | : 68 | 3: | | | |
| | Leu 1 | Tyr | Ala | Thr | Ala 5 | Thr | Val | Ile | Ser | Ser 10 | Pro | Ser | Thr | Glu | Xaa 15 | Leu |
| 25 | Ser | Gln | Asp | Gln 20 | Gly | Asp | Arg | Ala | Ser 25 | Leu | Asp | Ala | Ala | Asp 30 | Ser | Gly |
| 30 | Arg | Gly | Ser 35 | Trp | Thr | Ser | Cys | Ser 40 | Ser | Gly | Ser | His | Asp 45 | Asn | Ile | Gln |
| | Thr | Ile 50 | Gln | Hıs | Gln | Arg | Ser 55 | Trp | Glu | Thr | Leu | Pro 60 | Phe | Gly | His | Thr |
| 35 | His 65 | Phe | Asp | Tyr | Ser | Gly 70 | Asp | Pro | Ala | Gly | Leu 75 | Trp | Ala | Ser | Ser | Ser 80 |
| | His | Met | Asp | Gln | Ile 85 | Met | Pḥe | Ser | Asp | His 90 | Ser | Thr | Lys | Tyr | Asn 95 | Arg |
| 40 | Gln | Asn | Gln | Ser 100 | Arg | Glu | Ser | Leu | Glu 105 | Gln | Ala | Gln | Ser | Arg 110 | Ala | Ser |
| 45 | Trp | Ala | Ser 115 | Ser | Thr | Gly | Tyr | Trp 120 | Gly | Glu | Asp | Ser | Glu 125 | Gly | Asp | Thr |
| | Gly | Thr 130 | Ile | Lys | Arg | Arg | Gly 135 | Gly | Lys | Asp | Val | Ser 140 | Ile | Glu | Ala | Glu |
| 50 | Ser 145 | Ser | Ser | Leu | Thr | Ser 150 | Val | Thr | Thr | Glu | Glu 155 | Thr | Lys | Pro | Val | Pro 160 |
| | Met | Pro | Ala | His | Ile 165 | Ala | Val | Ala | Ser | Ser 170 | Thr | Thr | Lys | Gly | Leu 175 | Ile |
| 55 | Ala | Arg | Lys | Glu 180 | Gly | Arg | Tyr | Arg | Glu 185 | Pro | Pro | Pro | Thr | Pro 190 | Pro | Gly |
| 60 | Tyr | Ile | Gly 195 | Ile | Pro | Ile | Thr | Asp 200 | Phe | Pro | Glu | Gly | His 205 | Ser | His | Pro |

| | Ala | Arg 210 | Lys | Pro | Pro | Asp | Tyr 215 | asA | Val | Ala | Leu | Gln 220 | λrg | Ser | Arg | Met |
|----|------------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|-------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Val 225 | Ala | Arg | Ser | Ser | Asp 230 | Thr | Ala | Gly | Pro | Ser 235 | Ser | Val | Gln | Gln | Pro 240 |
| | His | Gly | His | Pro | Thr 245 | Ser | Ser | Arg | Pro | Val 250 | Asn | Lys | Pro | Gln | Trp 255 | His |
| 10 | Lys | Xaa | Aon | Glu 260 | Ser | Asp | Pro | Arg | Leu 265 | Ala | Pro | Tyr | Gln | Ser 270 | Gln | Gly |
| 15 | Phe | Ser | Thr 275 | Glu | Glu | Asp | Glu | Asp 280 | Glu | Gln | Val | Ser- | Ala 285 | Val | | |
| | (2) | INF | ORMAT | non | FCR | SEQ | ID 1 | 10: (| 534: | | | | | | | |
| 20 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 4 ami OGY: | 2 am no a lin | ino cid ear | acid | | : 68. | 4: | | | |
| 25 | His 1 | | | | | | | | | | | | | Tyr | Asn 15 | Arg |
| 30 | Gln | Asn | Gln | Ser 20 | Arg | Glu | Ser | Leu | Glu 25 | Gln | Ala | Gln | Ser | Arg 30 | Ala | Ser |
| 35 | Trp | Ala | 35 | Ser | Thr | Gly | Tyr | Trp 40 | Gly | Glu | | | | | | |
| | (2) | INF | DEMA | rion | FOR | SEQ | ID 1 | NO: (| 585: | | | | | | | |
| 40 | | | | į | A) L B) T D) T | ENGT YPE: OPOL | H: 5 ami CGY: | l am no a lin | ino cid ear | acid | | : 68 | 5: | | | |
| 45 | Ser 1 | Val | Thr | Thr | GIu 5 | Glu | Thr | Lys | Pro | Val | Pro | Met | Pro | Ala | His 15 | Ile |
| 50 | Ala | Val | Ala | Ser 20 | Ser | Thr | Thr | Lys | 31y 25 | Leu | Ile | Ala | Arg | Lys 30 | Glu | Gly |
| | Arg | Tyr | Arg 35 | Glu | Pro | Pro | Pro | Thr 40 | Pro | Pro | Gly | Tyr. | Ile 45 | Gly | Ile | Pro |

Same to the same

| | (i) SEQUENCE CHARACTERLISTICS: (A. LENCTH: 57 amino acids (B. TYPE: amino acid |
|-----|--|
| 5 | (D. TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 686: |
| | Val Ala Leu Gin Arg Ser Arg Met Val Ala Arg Ser Ser Asp Thr Ala 1 10 15 |
| 10 | Gly Pro Ser Ser Val Glm Glm Pro His Gly His Pro Thr Ser Ser Arg |
| 15 | Pro Val Ann Lys Pro Gln Trp His Lys Kaa Asn Glu Ser Asp Pro Arg 35 40 45 |
| 13 | leu Ala Pro Tyr Gin Ser Gln Gly Phe 50 55 |
| 20 | (3) ENFORMATION FOR SEQ ID NO: 687: |
| | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 41 amino acids |
| 25 | (B) TYPE: amino acid (D) TOPOLOGY: linear (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 687: |
| 3() | Cys Leu Deu Phe Val Phe Val Ser Leu Gly Met Arg Cys Leu Phe Trp 1 5 10 15 |
| | Thr lie Val Tym Abn Val Leu Tym Leu Lys His Lys Cys Asn Thr Val 20 25 30 |
| 35 | Leu Leu Cys Tyr His Leu Cys Ser Ile 35 40 |
| 40 | (3) DFORMATION FOR SEQ ID NO: 688: |
| | (i) SEQUENCE CHERACTERISTICS: (A) LENGTH: 67 amino acids |
| 45 | (B) TYPE: amino acid (D) TOPOLOGY: linear (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 688: |
| | Ala Cys Ser Lys Leu Ile Pro Ala Phe Glu Met Val Met Arg Ala Lys 1 5 10 15 |
| 50 | Asp Asn Val Tym His Leu Asp Cys Phe Ala Cys Gln Leu Cys Asn Gln 20 25 30 |
| 55 | Arg Xaa Cys Val Gly Asp Lys Phe Phe Leu Lys Asn Asn Xaa Xaa Leu 35 40 45 |
| | Cys Gln Thr Asp Tyr Glu Glu Gly Leu Met Lys Glu Gly Tyr Ala Pro 50 55 60 |
| 50 | Xaa Val Arg |

65

| 5 | (2) | INF | ORMA' | TICN | FCR | SEQ | ID 1 | VO: 6 | 539: | | | | | | | |
|-----|----------|-----|------------|-----------|----------------------|-----------------------|----------------------|---------------------|--------------------|-----------|------|------|---------------|-----------|-----------|-----|
| 10 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | H: 4 ami CGY: | 5 am no a lin | ino cid ear | acid | | : 68 | 9: | | | |
| 15 | Ser 1 | Ala | Leu | Ser | Glu 5 | Pro | Gly | Ala | Pro | Asp | Arg | Arg | Arg | Pro | Суз 15 | Pro |
| 13 | Glu | Ser | Val | Pro 20 | Arg | Arg | Pro | Asp | Asp 25 | Glu | Gln | Trp | Pro | Pro 30 | Pro | Thr |
| 20 | Ala | Leu | Сув 35 | Leu | Asp | Val | Ala | Pro 40 | Leu | Pro | Pro | Ser | Ser 45 | | | |
| 25 | (2) | नता | | ncia | | | | | | | | | | | | |
| 30 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | H: 4 ami: CGY: | 3 am no a lin | ino cid ear | acid | | | | | | |
| ,,, | | | (XI) | SEQ | UEINC. | E LE | STRI | PTIO | N: S: | EĞ II | D NO | : 69 | 9: | | | |
| | Pro 1 | Val | Gly | Туг | Leu 5 | Asp | Lys | Gln | Val | Pro 10 | Asp | Thr | Ser | Val | Gln 15 | Glu |
| 35 | Thr | Asp | Arg | 11e 20 | Leu | Và l | Glu | Lys | Arg 25 | Сув | Trp | Asp | Ile | Ala 30 | Leu | Gly |
| 10 | Pro | Leu | Lys 35 | Gln | Ile | Pro | Met | Asn 40 | Leu | Phe | Ile | | | | | |
| | (11) | INF | OPMA | rion | FOR | SEQ | ID 1 | 40: 6 | 591: | | | | | | | |
| 15 | | | | (| A) L B) T D) T | ENGT YPE : OPUL | H: 2 ami CGY: | 14 a no a lin | mino cid ear | aci | | · 69 | 1 : | | | |
| 50 | Ala | Ніз | | Ser | | | | | | | | | | Суз | Gly 15 | Val |
| | A. Iş | 44 | i r oʻr | :1: | s, y | 15.1 | ." i . | A | Zu 12 | Ai i | 14.3 | 2.5 | Ar (1 48 | Bizzer | * * * | 1:; |
| 1.3 | | | | | | | | | | | | | | | | |

| | | 50 | | | | | 55 | | | | | 60 | | | | | | |
|------------|-----------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|-------------------|-----------|-----------|------------|------------|------------|-----------|-----------|---|---|
| 5 | Arg 65 | Gly | Ser | Gly | Gln | Gly 70 | Asp | Ser | Leu | Tyr | Pro 75 | Val | Gly | Tyr | Leu | qzA 08 | | |
| | Lys | Gln | Val | Pro | Asp 85 | Thr | Ser | Val | Gln | Glu 90 | Thr | Asp | Arg | Ile | Leu 95 | Val | | |
| 10 | Glu | Lys | Arg | Суз 100 | Trp | Asp | Ile | Ala | Leu 105 | Gly | Pro | Leu | Lys | Gln 110 | Ile | Pro | | |
| | Met | Asn | Leu 115 | Phie | Ile | Met | Тут | Met 120 | Ala | Gly | Asn | Thr | 11e 125 | Ser | Ilė | Phe | | |
| 15 | Pro | Thr 130 | | Met | Val | Cys | Met 135 | Met | Ala | Trp | Arg | Pro 140 | Ile | Gln | Ala | Leu | | |
| 20 | 145 | | | Ser | | 150 | | | | | 155 | | | | | 160 | | |
| | | | | Sly | 165 | | | | | 170 | | | | | 175 | | | |
| 25 | | | | Ty≆ 180 | | | | | 185 | | | | | 190 | | | | |
| 30 | | | 195 | Leu | | | Ile | Glu 200 | Pro | Pro | Glu | Arq | Met 205 | Glu | Phe | Ser | | |
| 50 | GIY | 210 | 017. | Leu | Leu | Leu | | | | | | | | | | | | |
| 35 | (2) | INF | OPMAC | ricn | FOR | SEQ | ID 1 | VO: (| 592: | | | | | | | | | |
| 40 | | | | (| A) L B) T D) T | ENGT YPE: CPOL | H: 4 ami OGY: | 6 am no a lin | ino cid ear | acid | | : 69. | 2: | | | | | |
| 45 | Ala 1 | Thr | Phe | Lys | Met 5 | | | | | Ser | | | | Leu | Gln 15 | Gly | | |
| 4 3 | Leu | Val | Tyr | Leu 20 | Ile | Gly | Asn | Leu | Met 25 | Gly | Leu | Ala | Leu | Ala 30 | Val | Tyr | | |
| 50 | Lys | Cys | Gln 35 | Ser | Met | Gly | Leu | Leu 40 | Pro | Thr | His | Ala | Ser 45 | Asp | | | | |
| 55 | (2) | INF | ORMA' | rion | FOR | SEQ | ID 1 | NO: 6 | 593: | | | | | | | | | |
| - | | | (i) | | | ENGT | H: 4 | 3 am | ino | : acid | s | | | | | | - | - |
| 60 | | | (xi) |) SEQI | D) T JENCI | | | | | EQ I | ON C | : 69 | 3 : | | | | | |

| | Pro 1 | Val | Gly | Тут | Leu 5 | Asp | Lys | Gln | Val | Pro 10 | Asp | Thr | Ser | Val | Gln 15 | Glu |
|----|----------|-----|-----------|----------------|------------------------------|------------------------------|-----------------------------|-----------------------------|---------------------------|--------------------|--------|-------|------------|-----------|-------------|-----|
| 5 | Thr | Asp | Arg | 11e 20 | Leu | Val | Glu | Lys | Arg 25 | Cys | Trp | Апр | Ile | Ala 30 | Leu | Gly |
| 10 | Pro | Leu | Lys 35 | Gln | Ile | Pro | Met | Asn 40 | Leu | Phe | Ile | | | | | |
| 15 | (2) | IMF | ORMAC | SEQU) (| ENCE A) L B) T D) T | CHA ENGT YPE: OPCIL | RACT H: 4 ami OGY: | ERIS 8 am no a lin | TICS ino cìd ear | : acid EQ II | | : 69 | 4 · | | | |
| 20 | Pro 1 | Thr | Thr | | | | | | | | | | | Ile | Gln 15 | Ile |
| 25 | Arg | Phe | Pro | Ser 20 | Phe | Tyr | His | Lys | Leu 25 | Val | Asp | Ser | Gly | Arg 30 | Met | Arg |
| | Ser | Lys | Arg 35 | Glu | Thr | Arg | Arg | Glu 40 | Asp | Ser | qzA | Thr | Lys 45 | His | Asn | Leu |
| 30 | | | | | | | | | | | | | | | | |
| 35 | (2) | INF | ORMA: | rion | FOR | SEQ | ID I | 40: (| 595: | | | | | | | |
| 40 | | | | (| A) L B) T D) T | ENGT YPE : OPOL | ami CGY: | 67 a no a lin | mino cid ear | : aci EQ I | | : 69 | 5 : | | | |
| 45 | Thr 1 | Glu | His | île | Ile 5 | Ala | Val | Met | Ile | Thr 10 | Glu | Leu | Arg | Gly | Lys 15 | qaA |
| | Ile | Leu | Ser | Tyr 20 | Leu | Jlu | Lys | Asn | 11= 25 | Ser | Val | Gln | Met | Thr 30 | Ile | Ala |
| 50 | Val | Gly | Thr 35 | Arg | Met | Pro | Pro | Lys 40 | Asn | Phe | Ser | Arg | Gly 45 | Ser | Leu | Val |
| | Phe | Vil | Ser | Tie | űe r | Phe | Ila | Val | Leu | Met | Tle | He | Ser | Çer | Ala | Trţ |
| 60 | Arj | Asn | iin | Ai i | Arı 45 | 1 eu | alş | Αφ | Ala | Ala 90 | 12,777 | 1.,55 | Alı | Tiles | 3-31 3-5 | Lya |

| | Leu | Thr | Thr | Arg 100 | Thr | Val | Lys | Lys | Gly 105 | Asp | Lys | Glu | Thr | Asp 110 | Pro | Asp |
|----|-------------|------------|--------------|------------|----------------------|-----------------------|---------------------|-----------------------|--------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Phe | Asp | His | | Ala | Val | Cys | Ile 120 | | Ser | Tyr | Lys | Gln 125 | | угр | Val |
| | Val | Arg 130 | Ile | Leu | Pro | Cys | Lys 135 | | Val | Phe | His | Lys 140 | | Cys | Val | Asp |
| 10 | Pro 145 | Trp | Leu | Ser | Glu | His 150 | | Thr | Cys | Pro | Met 155 | | Lys | Leu | Asn | Ile 150 |
| 15 | Leu | Lys | Ala | Leu | Gly 165 | Ile | Val | | | | | | | | | |
| | (2) | INF | O RMA | TION | FOR | SEQ | ID : | N O : | 696: | | | | | | | |
| 20 | | | | (| A) L B) T D) T | ENGT YPF.: OPOL | H: 2 ami OGY: | .76 a .no a lin | mino cid ear | aci | | : 69 | 6 : | | | |
| 25 | Met 1 | Thr | | | | | | | | | | | | Ile | Thr | Glu |
| 30 | Leu | Arg | Gly | Lys 20 | Asp | Ile | Leu | Ser | Tyr 25 | Leu | Glu | Lys | Asn | Ile 30 | Ser | Val |
| | Gln | Met | Thr 35 | Ile | Ala | Val | Gly | Thr 40 | Arg | Met | Pro | Pro | Lys 45 | Asn | Phe | Ser |
| 35 | Arg | Gly 50 | Ser | Leu | Val | Phe | Val 55 | Ser | Ile | Ser | Phe | Ile 60 | Val | Leu | Met | Ile |
| 10 | Ile 65 | Ser | Ser | Ala | Trp | Leu 70 | Ile | Phe | Tyr | Phe | Ile 75 | Gln | Lys | Ile | Arg | Tyr 80 |
| | Thr | Asn | Ala | Arg | Asp 85 | Arg | Asn | Gln | Arg | Arg 90 | Leu | Gly | Asp | Ala | Ala 95 | Lys |
| 15 | Lys | Ala | Ile | Ser 100 | Lys | Leu | Thr | Thr | Arg 105 | Thr | Val | Lys | Lys | Gly 110 | Asp | Lys |
| | Glu | Thr | Asp 115 | Pro | Asp | Phe | Asp | His 120 | Cys | Ala | Val | Cys | Ile 125 | Glu | Ser | Tyr |
| 50 | L ys | Gln 130 | Asn | Asp | Val | Val | Arg 135 | Ile | Leu | Pro | Cys | Lys 140 | His | Val | Phe | His |
| 55 | Lys 145 | Ser | Cys | Val | Asp | Pro 150 | Trp | Leu | Ser | Glu | His 155 | Суз | Thr | Cys | Pro | Met 160 |
| | Cys | Lys | Leu | Asn | 11e 165 | Leu | Lys | Ala | Leu | Gly 170 | Ile | Val | Pro | Asn | Leu 175 | Pro |
| 60 | Cys | Thr | Asp | Asn 180 | Val | Ala | Phe | Asp | Met 185 | Glu | Arg | Leu | Thr | Arg | Thr | Gln |

| | Ala | Val | Asn 195 | Arg | Arg | Ser | Ala | Leu 200 | Gly | Asp | Leu | Ala | Gly 205 | Asp | Asn | Ser |
|----|------------|------------|------------|------------|----------------------|----------------------|---------------------|-----------------------------|-------------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Leu | Gly 210 | Leu | Glu | Pro | Leu | Arg 215 | Thr | Ser | Gly | Ile | Ser 220 | Pro | Leu | Pro | Gln |
| 10 | Asp 225 | Gly | Glu | Leu | Thr | Pro 230 | Arg | Thr | Gly | Glu | Ile 235 | Asn | Ile | Ala | Val | Thr 240 |
| • | Lys | Glu | Trp | Phe | Ile 245 | He | Ala | Ser | Phe | Gly 250 | Leu | Leu | Ser | Ala | Leu 255 | Thr |
| 15 | Leu | Cys | Тут | Met 260 | Ile | Ile | Arg | Ala | Thr 265 | Ala | Ser | Leu | Asn | Ala 270 | Asn | Glu |
| | Val | Glu | Trp 275 | Phe | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | |
| | (2) | INF | ORMA'. | rion | FOR | SEQ | ID | NO: (| 597: | | | | | | | |
| 25 | | | | (| A) L B) T D) T | ENGT YPE: CPOL | H: 6 ami OGY: | 9 am no a lin | ino cid ear | acid | | : 69 | 7: | | | |
| 30 | Thr 1 | Glu | His | Ile | Ile 5 | Ala | Val | Met | Ile | Thr 10 | Glu | Leu | Arg | Gly | Lys 15 | Asp |
| 35 | Ile | Leu | Ser | Tyr 20 | Leu | Glu | Lys | Asn | 11 <i>e</i> 25 | Ser | Val | Gln | Met | Thr 30 | Ile | Ala |
| | Val | Gly | Thr 35 | Arg | Met | Pro | Pro | Lys 40 | Asn | Phe | Ser | Arq | Gly 45 | Ser | Leu | Val |
| 40 | Phe | Val 50 | Ser | Ile | Ser | Phe | Ile 55 | | Leu | Met | Ile | Ila 60 | Ser | Ser | Ala | Trp |
| | Leu 65 | lle | Phe | Tyr | Phe | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | |
| | (2) | IMF | ORMA' | TION | FOR | SEQ | ID : | NO: | 698: | | | | | | | |
| 50 | | | (i) | (| A) L B) T | ENGT YFE: | H: 5 ami | ERIS 8 am no a lin | ino cid | | lo | | | | | |
| | | | | | | | | | | | | | | | | |

| | 9111 | .11.9 | 35 | De. a | J1 y | ,,,,, | 1114 | 40 | | Бүз | n i a | 44.5 | 45 | Lys | rie:U | 1111 |
|----|-----------|-----------|-----------|-----------|------------------------------|--------------|-------------|--------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5 | Thr | Arg 50 | Thr | Val | Lys | Lys | Gly 55 | Asp | Lys | Glu | | | | | | |
| 10 | (2) | INF | ORMA' | TICN | FOF: | SEQ | ID : | NO: | 699: | | | | | | | |
| | | | (i) | (| A) I B) T | ENCI YPE: | H: 6 ami | 6 ал по а | ino cid | | s | | | | | |
| 15 | | | (xi) | SEQ | D) I UENC | | | | | EQ I | D NO | : 69 | 9 : | | | |
| | Val 1 | | Lys | Gly | Asp 5 | Lys | Glu | Thr | Asp | Pro 10 | Asp | Phe | Asp | His | Cys 15 | Ala |
| 20 | Val | Cys | Ile | Glu 20 | Ser | Туг | Lys | Oln | Asn 25 | Asp | Val | Val | Arg | Ile 30 | Leu | Pro |
| 25 | Cys | Lys | His 35 | Val | Ph∈ | Hıs | Lys | Ser 40 | Cys | Val | Asp | Pro | Trp 45 | Leu | Ser | Glu |
| | His | Cys 50 | Thr | Cys | Pro | Met | Cys 55 | Lys | Leu | Asn | Ile | Leu 60 | Lys | Ala | Leu | Gly |
| 30 | Ile 65 | Val | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 35 | (2) | INF | ORMA' | TION | FOR. | snç | ID: | NC: ' | 70(: | | | | | | | |
| | | | (i) | (| ENCE A) L B) T D) T | ENGT YPE: | H: 1 ami | 06 a no a | mino .cid | | ds | | | | | |
| 40 | | | (xi) | SEQ | UENC | E DE | SCRI | PTIO | N: S | EQ I | D NO | : 70 | 0 : | | | |
| | Met 1 | Thr | His | Pro | Gly 5 | Thr | Glu | His | Ile | Ile 10 | Ala | Val | Met | Ile | Thr 15 | Glu |
| 45 | Leu | Arg | Gly | Lys 20 | Asp | Ile | Leu | Ser | Τንፕ 25 | Leu | Glu | Lys | Asn | Ile 30 | Ser | Val |
| 50 | Gln | Met | Thr 35 | Ile | Ala | Val | Gly | Thr 40 | Arg | Met | Pro | Pro | Lys 45 | Asn | Phe | Ser |
| | Arg | Gly 50 | Ser | Leu | Val | Phe | Val 55 | Ser | Ile | Ser | Phe | Ile 60 | Val | Leu | Met | Ile |
| 55 | Ile 65 | Ser | Ser | Ala | Trp | Leu 70 | Ile | Phe | Тут | Phe | Ile 75 | Gln | Lys | Ile | Arg | Тут 80 |
| | Thr | Asn | Ala | Arg | Asp 85 | Arg | Asn | Gln | Arg | Arg 90 | Leu | Gly | Asp | Ala | Ala 95 | Lys |
| 50 | Lys | Ala | Ile | Ser | Lys | Leu | Thr | Thr | Arg | Thr | | | | | | |

| 5 | (2) | INF | ORMA | rion | FOR | SEQ | ID I | NO: 1 | 701: | | | | | | | |
|------|-----------|-----------|-----------|-----------|----------------------|----------------------|---------------------|---------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 10 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 8 ami CGY: | 4 am no a lin | ino cid ear | acid | | : 70 | 1: | | | |
| 15 | Ala 1 | Ala | Lys | Lys | Ala 5 | Ile | Ser | Lys | Leu | Thr 10 | Thr | Arg | Thr | Val | Lys 15 | Lys |
| 1.27 | Gly | Asp | Lys | Glu 20 | Thr | Asp | Pro | Asp | Phe 25 | Asp | His | Cys | Ala | Val 30 | Cys | Ile |
| 20 | Glu | Ser | Tyr 35 | Lys | Gln | Asn | Asp | Val 40 | Val | Arg | He | Leu | Pro 45 | Cys | Lys | His |
| | Val | Phe 50 | His | Lys | Ser | Cys | Val 55 | Asp | Pro | Trp | Leu | Ser 60 | Glu | His | Cys | Thr |
| 25 | Cys 65 | Pro | Met | Cys | Lys | Leu 70 | Asn | Ile | Leu | Lys | Ala 75 | Leu | Gly | Ile | Val | Pro 80 |
| 30 | Asn | Leu | Pro | Cys | | | | | | | | | | | | |
| | (2) | INF | OFMA' | rion | FOR | SEQ | ID 1 | NO: 1 | 702: | | | | | | | |
| 35 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 8 ami CGY: | 6 am no a lin | ino cid ear | acid | | | | | | |
| 40 | | | (xi) | SEQ | UENC. | E DE: | SCFI | PTIC | N: S | EQ II | D N⊝ | : 70. | 2: | | | |
| | Thr 1 | Gln | Ala | Val | Asn 5 | Arg | Arg | Ser | Ala | Leu 10 | Gly | Узр | Leu | Ala | Gly 15 | Asp |
| 45 | Asn | Ser | Leu | Gly 20 | Leu | Glu | Pro | Leu | Arg 25 | Thr | Ser | Gly | Ile | 3er 30 | Pro | Len |
| | Pro | Gln | Asp | Gly | Glu | Leu | Thr | Pro | Arg | Thr | Gly | Glu | Ile | Asn | Ile | Ala |

Val Thr Lys Slu Trp Phe Ile Ile Ala Ser Phe Gly Leu Leu Ser Ala

50 55 60

100 105

60

| | 4 - | -21.5 | 1224 | | FOR | : 5 <u>3</u> | ⊃ | Mari | J3: | | | | | | | |
|----|--------------------|------------|-----------------|------------|----------------------------|----------------|------------|------------------------|---------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | | | ٤١ | | JE KCE (A) E (B,) | LENG: FYFE: | M: : | 341 a <u>i</u> no a | umin: ecid | | Éás | | | | | |
| | | | иi | | | | | | | EQ I | ID 170 |): T0 | 3: | | | |
| 10 | Fro 1 | | : His | Gly | . Val | | Asp | His | Leu | 31y 10 | | Asp | Pro | Glm | Thr | Arg |
| | Pne | Phe | : Val | Pro 20 | 250 | Asn | . Ile | : lys | Gla 25 | | ĭ1÷ | Ala | . Leu | Leu 30 | | Arg |
| 15 | aly | Ast. | . Cys 35 | | Phe | - Lys | Glu | . Lys 40 | | Ser | Arg | 112 | Ala 45 | | His | Asn |
| 20 | Ala | 77a1 80 | Ala | Val | Val | Ile | Tyr 55 | | . Asn | Lys | Sar | Lys 60 | | Glu | Pro | - Val |
| | 7'n <u>×</u> €5 | Жet | The | His | Pro | GLY | Thr | Glu | His | Ils | 11e 75 | A_a | Val | Met | Ile | Thr 80 |
| 25 | | | | | 3.5 | | | | | 91 | | | | | 95 | |
| | Tal | 315 | Met | 75± 190 | Ile | Ala | Val | ΣΊγ | Thr 105 | | Met | Pro | Pro | Lys 110 | | Fhe |
| 30 | Ser | Arg | Gly 115 | Ser | L⊕u | Val | Phe | Val 120 | | Ile | Ser | Phe | Ile 125 | Val | Leu | Met |
| 35 | Ile | I1∈ 131 | Ser | Ser | Ala | طتي | 1eu 135 | 110 | Ph∈ | Ty≃ | Poe | 11a 140 | | lys | ile | Arg |
| | 145 | | | | | 150 | | | | | 135 | | | | | Ala 160 |
| 40 | | | | | Ser 165 | | | | | 170 | | | | | 175 | |
| | | | | 185 | PTO | | | | 135 | | | | | 190 | | |
| 45 | रिश्व | Lys | G <u>l</u> -195 | Asn | Arp | Val | Val | 223 230 | Ils | Leu | 220 | Суз | Lys 205 | His | Val | Phe |
| 50 | His | Lys 210 | Ser | Суз | Val | qzA | Pro 215 | فتز | Leu | Ser | Glu | His 220 | Cys | Thr | Cys | Pro |
| | Met 223 | Суз | ŗÃ2 | Leu | Asn | 11e 230 | Leu | Lys | Ala | Leu | Gly 235 | Ile | Val | Pro | Asn | Leu 240 |
| 55 | Szo | Суз | The | qzA | Asn 245 | Val | Ala | Phe | Asp | Met 250 | Glu | æg | Leu | Thr | Arg 255 | Thr |
| | GLE | Ala | Val | Asn 260 | .≥≃g | λrg | Ser | Ala | Leu 265 | Gly | ćp | Leu | Ala | Gly 270 | Asp | Asn |
| 60 | Ser | Leu | Glv | Leu | Glu | a | T,en | 2~~ | ጥኮ፦ | Sa- | c , | - 7 2 | Sar | 2*0 | Lon | Dro |

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| | | | 275 | | | | | 280 | | | | | 235 | | | |
|-----|------------|------------|--------|--------------|-------------------------|----------------------|---------------------|---------------------|-------------------|------------|------------|------------|-----------|-----------|------------|------------|
| 5 | Gln | Asp 290 | Gly | Glu | Leu | Thr | Pro 295 | Arg | Thr | Gly | Glu | Ile 300 | A/n | Ile | Ala | Val |
| 5 | Thr 305 | Lys | Glu | Trp | Fhe | Ile 310 | Ile | Ala | Ser | Phe | 31y 315 | Leu | Lou | Ser | Ala | Leu 320 |
| 10 | Thr | Leu | Cys | Tyr | Met 325 | Ile | Ile | Arg | Ala | Thr 330 | Ala | Ser | Leu | Asn | Ala 335 | Asn |
| | Glu | Val | Glu | Trp 340 | Phe | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| | (2) | INF | | NOIT | | | | | | | | | | | | |
| 20 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 6 ami OGY: | 0 am no a lin | ino cid ear | acid | | : 70 | 4: | | | |
| 25 | His 1 | Gly | Val | Ala | Asp 5 | His | Leu | Gly | Cys | Asp | Pro | Gln | Thr | Arg | Phe 15 | Phe |
| 2.0 | Val | Pro | Pro | Asn 20 | Ile | Lys | Gln | Trp | Ile 25 | Ala | Leu | Leu | Gln | Arg 30 | Gly | Asn |
| 30 | Cys | Thr | Phe | Lys | Glu | Lys | Ile | Ser 40 | Arg | Ala | Ala | Phe | His 45 | Asn | Ala | Val |
| 35 | Ala | Val 50 | Val | Ile | Tyr | Asn | Asn 55 | Lys | Ser | Lys | Glu | Glu 60 | | | | |
| 40 | (2) | INF | | TION SEQU | | | | | | ± | | | | | | |
| | | | | (| (A) L (B) T (D) T | YPE: | ami | no a | cid | aci | ds | | | | | |
| 45 | | | (xi) | SEÇ | | | | | | EQ I | D NO | r: 70 | 5: | | | |
| | Met 1 | | Gly | Gln | Gly 5 | Leu | Ala | Gly | Phe | Phe 10 | Ala | Ser | Val | Ala | Met 15 | He |
| 50 | Cys | Ala | Ile | Ala 20 | | Gly | Ser | Glu | Leu 25 | | Glu | Ser | Ala | 30 Epe | Gly | Tyr |
| | | | | | | | | | | | | | | | | |
| 60 | Glu | Gly | . Erro | oly | · v:Tu | Gla | Glu | The | Lyn | Len | Anp | Len | 11- | ."⊷r | Lya | en eny |

| | Glu | Glu | Pro | Arg | Ala 85 | | Lys | Glu | Glu | Ser 90 | Gly | Val | Ser | Val | Ser 95 | Asn | | |
|----|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|---|---|
| 5 | Ser | Gln | Pro | Thr 100 | Asn | Glu | Ser | His | Ser 105 | Ile | Lys | Ala | Ile | Leu 110 | Lys | Asn | | |
| 10 | Ile | Ser | Val 115 | | Ala | Phe | Ser | Val 120 | Cys | Phe | Ile | Phe | Thr 125 | Ile | Thr | Ile | | |
| | Gly | Met 130 | | Pro | Ala | Val | Thr 135 | Val | Glu | Val | Lys | Ser 140 | Ser | Ile | Ala | Gly | | |
| 15 | Ser 145 | Ser | Thr | Trp | Glu | Arg 150 | Tyr | Phe | Ile | Pro | Val 155 | Ser | Cys | Phe | Leu | Thr 160 | | |
| | Phe | Asn | Ile | Phe | Asp 165 | | Leu | Gly | Arg | Ser 170 | Leu | Thr | Ala | Val | Phe 175 | Met | | |
| 20 | Trp | Pro | Gly | Lys 180 | Asp | Ser | Arg | Trp | Leu 185 | Pro | Ser | Trp | Xaa | Leu 190 | Ala | Arg | | |
| 25 | Leu | Val | Phe 195 | Val | Pro | Leu | Leu | Leu 200 | Leu | Cys | Asn | Ile | Lys 205 | Pro | Arg | Arg | | |
| | Tyr | Leu 210 | Thr | Val | Val | Phe | Glu 215 | His | Asp | Ala | Trp | Phe 220 | Ile | Phe | Phe | Met | | |
| 30 | 225 | | | | Phe | 230 | | | | | 235 | | | | | 240 | | |
| | Phe | Gly | Pro | Lys | Lys 245 | Val | Lys | Pro | Ala | Glu 250 | Ala | Glu | Thir | Ala | Glu 255 | Pro | | |
| 35 | Ser | Trp | Pro | Ser 260 | Ser | Cys | Val | Trp | Val 265 | Trp | His | Trp | Gly | Leu 270 | Phe | Ser | | |
| 40 | Pro | Ser | Cys 275 | Ser | Gly | Gln | Leu | Cys 280 | Asp | Lys | Gly | Trp | Thr 285 | Glu | Gly | Leu | | |
| | Pro | Ala 290 | Ser | Leu | Pro | Val | Cys 295 | Leu | Leu | Pro | Leu | Pro 300 | Ser | Ala | Arg | Gly | | |
| 45 | Asp 305 | Pro | Glu | | Ser | _ | | Phe | Phe | Phe | | | | | | | | |
| | (2) | INFO | RMAT | CION | FOR | SEQ | ID N | 10: 7 | 06: | | | | | | | | | |
| 50 | | | (i) S | () | ENCE A) L B) T | ENGT | H: 10 | 06 au | nino | | ds | | | | | | | |
| 55 | | | (xi) | (1 | D) TY | OPOL | OGY : | line | ear | EQ II | ONO: | : 706 | 5: | | | | | |
| | Met 1 | Ser | Gly | Gln | Gly 5 | Leu | Ala | Gly | Phe | Phe 10 | Ala | Ser | Val | Ala | Met 15 | Ile | - | - |
| 60 | Cys | Ala | Ile | Ala | Ser | Gly | Ser | Glu | Leu | Ser | Glu | Ser | Ala | Phe | Gly | Tyr | | |

| | | | | 20 | | | | | 25 | | | | | 30 | | |
|------|-----------|-----------|---------------|------------|----------------------|----------------------|---------------------|---------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5 | Phe | He | Thr 35 | Ala | Cys | Ala | Val | Ile 40 | Ile | Lēu | Thr | īle | Ile 45 | Cys | Tyr | Leu |
| | Gly | Leu 50 | Pro | Arg | Leu | Glu | Fhe SS | Tyr | Arg | Tyr | Tyr | Gln 60 | Gln | Leu | Lys | Leu |
| 10 | Glu 65 | Gly | Pro | Gly | Glu | Gln 73 | Glu | Thr | Lys | Leu | Asp 75 | Leu | Ile | Ser | Lys | Gly 90 |
| | Glu | Glu | Pro | Arg | Ala 85 | Gly | Lys | Glu | Glu | Ser 90 | Gly | Val | Ser | Val | Ser 95 | Apn |
| 15 | Ser | Gln | Pro | Thr 100 | Aan | Glu | Ser | His | Ser 105 | Ile | | | | | | |
| 20 | (2) | INF | ORMAT | rion | FCR | SeS | ID I | NO: T | 707: | | | | | | | |
| 25 | | | (i) : (xi) | (| A) L B) T D) T | ENGT YPE: CPCL | H: 8 ami OGY: | l am no a lin | ino cid ear | acid | | : 70 | 7: | | | |
| 30 | Ser 1 | Gly | Val | Ser | Val 5 | Ser | Asn | Ser | Gln | Pro 10 | Thr | Asn | Glu | Ser | His IS | Ser |
| 2,07 | Ile | Lys | Ala | Ile 20 | Leu | Lys | Asn | Ile | Ser 25 | Val | Leu | Ala | Phe | Ser 30 | Val | Суз |
| 35 | Phe | Ile | Phe 35 | Thr | Ile | Thr | Ile | Gly 40 | Met | Phe | Pro | Ala | Val 45 | Thr | Val | Glu |
| | Val | Lys 50 | Ser | Ser | Ile | Ala | Gły 55 | Ser | Ser | Thr | Trp | Glu 60 | Arg | Tyr | Phe | lle |
| 40 | Pro 65 | Val | Ser | Cys | Phe | Leu 70 | Thr | Phe | Asn | Ile | Phe 75 | Asp | Trp | Leu | Gly | 80 Yrd |
| 45 | Sei | | | | | | | | | | | | | | | |
| 121 | | | | | | | | | | | | | | | | |
| 50 | (2) | | ORMAT | | | | | | | | | | | | | |
| 50 | | | (i) : | (| A) L | ENGT | H: 9 | | ino | : acid | S | | | | | |
| | | | * + | .: | | | | | | 1 | | | | | : : | |
| | 5.7.4 | | | | This | /*\ | ~1 | | 75 | ** L . | ~ 1 | ***** | | | , | |

| | Leu | Thr | Phe 35 | | ılle | Phe | Asp | Trp 40 | | Gly | Arg | Ser | Leu 45 | | Ala | val | |
|----|-----------|-----------|-----------|-----------|-------------------------|-----------------------|---|------------------------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| 5 | Phe | Met 50 | Trp | Pro | Gly | Lys | Asp 55 | | Arg | Trp | Leu | Pro 60 | | Trp |) Xaa | Leu | |
| 10 | Ala 65 | Arg | Leu | . Val | Phe | Val 70 | | Leu | Leu | Leu | Leu 75 | | Asn | Il∈ | Lys | Pro 80 | |
| | Arg | Arg | Tyr | Leu | Thr 85 | | Va1 | Fhe | Glu | His 90 | Asp | Ala | | | | | |
| 15 | (2) | INF | ORMA | TION | FOR | SEQ | ID I | NO: | 709 : | | | | | | | | |
| 20 | | | | ((| (A) I (B) T (D) T | ENGT YPE: OPOL | RACT H: 7 ami OGY: SCRI | 4 am n⊖ a lin | ino cid ear | acid | | : 70 | 9: | | | | |
| 25 | Phe 1 | Gly | Pro | Lys | Lys 5 | Val | Lys | Pro | Ala | Glu 10 | Ala | Glu | Thr | Ala | Glu 15 | Pro | |
| | Ser | Trp | Pro | Ser 20 | Ser | Cys | Val | Trp | Val 25 | Trp | His | Trp | Gly | Leu 30 | Phe | Ser | |
| 30 | Pro | Ser | Cys 35 | Ser | Gly | Gln | Leu | Cys 40 | Asp | Lys | Gly | Trp | Thr 45 | Glu | Gly | Leu | |
| 35 | Pro | Ala 50 | Ser | Leu | Pro | Val | Cys 55 | Leu | Leu | Pro | Leu | Pro 60 | Ser | Ala | Arg | Gly | |
| | Asp 65 | Pro | Glu | Trp | Ser | Gly 70 | Gly | Pne | Phe | Phe | | | | | | | |
| 40 | (2) | INFO | ORMAT | rion | FOR | SEQ | ID N | 10 : 7 | 710: | | | | | | | | |
| 45 | | | | (; (; | A) L B) T D) T | ENGT YPE : OPOL | RACTE H: 1: amin OGY: SCRIE | 35 ar no ac line | mino cid ear | aci | | : 71(| O : | | | | |
| 50 | Asp 1 | Asp | Asp | Gly | Phe 5 | Glu | Ile | Val | Pro | Ile 10 | Glu | Asp | Pro | Ala | Lys 15 | His | |
| | Arg | Ile | Leu | Asp 20 | Pro | Glu | Gly | Leu | Ala 25 | Leu | Gly | Ala | Val | Ile 30 | Ala | Ser | |
| 55 | Ser | Lys | Lys 35 | Ala | Lys | Arg | Asp | Leu 40 | Ile | Asp | Asn | Ser | Phe 45 | Asn | Arg | Tyr | - |
| 60 | Thr | Phe 50 | Asn | Glu | Asp | Glu | Gly 55 | Glu | Leu | Pro | Glu | Trp 60 | Phe | Val | Gln | Glu | |

| | Glu 65 | Lys | Gln | His | Arg | 11e 70 | Arg | Gln | Leu | Pro | Val 75 | Gly | Lyrr | Lys | Slu | Val 80 |
|----|-----------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|-------------------|-----------|-----------|-------|------------|------------|------------|-----------|
| 5 | Glu | Ніз | Тут | Arg | Lys 85 | Arg | Trp | Arg | Glu | Ile 90 | Asn | Ala | Arg | Pro | 11.5 95 | Xaa |
| | Xaa | Xaa | Xaa | Xaa 100 | Xaa | Хаа | Хаа | Xaa | Жаа 105 | Xaa | Хаа | Хаа | Хаа | Хаа 110 | Xaa | Xaa |
| 10 | Leu | Glu | Gln 115 | Thr | Arg | Lys | Lys | Ala 120 | Glu | Ala | Val | Val | Adn 105 | Thr | Val | Asp |
| 15 | Ile | Жаа 130 | Arq | Thr | Arg | Slu | Ser 135 | | | | | | | | | |
| | (2) | (NF) | DRMAC | ΣίΟΝ | FOR | SEQ | TD 1 | 10· . | 711 - | | | | | | | |
| 20 | | | (i) : | (| | ENGT YPE: | H: 5 ami | 0 am no a | ino . cid | | S | | | | | |
| 25 | | | (xi) | SEQ | JENC: | E DE: | SCRI | PTIO | N: S! | EQ I | OM O | : 71 | 1: | | | |
| | Asp 1 | Asp | Asp | Gly | Phē 5 | Glu | Ile | Val | Pro | Ile 10 | Glu | Asp | Pro | Ala | Lys 15 | His |
| 30 | Arg | Ile | Leu | Азр 20 | Pro | Glu | Gly | Leu | Ala 25 | Leu | Gly | Ala | Val | 11e 30 | Ala | Ser |
| | Ser | Lys | Lys 35 | Ala | Lys | Arg | Asp | Leu 40 | Ile | Asp | Asn | Ser | Phe 45 | Asn | Arg | Tyr |
| 35 | Thr | Phe 50 | | | | | | | | | | | | | | |
| 40 | (2) | INF | ORMA | | | _ | | | | | | | | | | |
| 45 | | | | (| A) L E) T F) T | ENGT YPE: OPOL | H: 5 ami OSY. | l am no a lin | ino cid ear | acid | | : 71. | 0 : | | | |
| 50 | Lys 1 | γτα | Trp | Arg | G1u 5 | Ile | Asn | Ala | Yrq | Pro 10 | Ile | Хаа | Xaa | Хаа | Хаа 15 | Xaa |
| | Хаа | Kaa | Маа | Xaa ph | хаа | Жаа | Каа | Kaa | Haa os | Хаа | Хаа | Хаа | Lori | Olu Pa | Gln | Thr |

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 $\mathcal{S}(X_{k+1}) = \mathcal{S}(X_{k+1}) = \mathcal{S}(X_{k+1}$

| | (2) | INF | ORMA | TION | F∂R | SEQ | ID | NO : | 713: | | | | | | | |
|----|------------|------------|------------|------------|-------------------------|--------------------------|---------------------|----------------------|--------------|------------|------------|-----------|------------|------------|------------|------------|
| 5 | | | | (| (A) I (B) T (D) T | LENGI TYPE : TOPOI | H: 2 ami OGY: | 216 a no a lin | | aci | | ı. 71 | ٦. | | | |
| 10 | Met 1 | | | | | | | | Arg | | | | | Ser | Ser 15 | Gln |
| 15 | Pro | Ala | Hin | Leu 20 | Cys | Pro | Glu | Asn | Pro 25 | Leu | Leu | His | Leu | Lys 30 | Ala | Ala |
| | Val | Lys | Glu 35 | | Lys | Arg | Asn | Lys 40 | Lys | Lys | Lys | Thr | Ile 45 | Gly | Ser | Pro |
| 20 | Lys | Arg 50 | | Gln | Sor | Pro | Leu 55 | | Asn | Lys | Leu | Leu 60 | Asn | Ser | Pro | Ala |
| | Lys 65 | Thr | Leu | Pro | Gly | Ala 70 | Cys | Gly | Ser | Pro | Gln 75 | Lys | Leu | Ile | Asp | Gly 80 |
| 25 | Phe | Leu | Lys | His | GIu F5 | Gly | Pro | Pro | Ala | Glu 90 | Lys | Pro | Leu | Glu | Glu 95 | Leu |
| 30 | | | | 100 | | | | | Gly 105 | | | | | 110 | | |
| | Pro | Ala | Gly 115 | Cyc | Val | Arg | Pro | Pro 120 | Ala | Pro | Asn | Leu | Ala 125 | Gly | Ala | Val |
| 35 | | 130 | | | | | 135 | | Leu | | | 140 | | | | |
| 10 | Ser 145 | Asp | Pro | Met | Glu | Glu 150 | Αέb | Ile | Leu | Gln | Val 155 | Val | Lys | Tyr | Cys | Thr 160 |
| 40 | Asp | Leu | Ile | Glu | Glu 165 | Lys | qzA | Leu | Glu | Lys 170 | Leu | Asp | Leu | Val | Ile 175 | Lys |
| 45 | Tyr | Met | Lys | Arg 180 | Leu | Met | Gln | Gln | Ser 185 | Val | Glu | Ser | Val | Trp 190 | Asn | Met |
| | Ala | Phe | Asp 195 | Phe | Ile | Leu | Asp | Asn 200 | Val | Gln | Val | Val | Leu 205 | Gln | Gln | Thr |
| 50 | Tyr | Gly 210 | Ser | Thr | L€u | Lys | Val 215 | Thr | | | | | | | | |
| 55 | (2) | INFO | ORMAI | rion | FOR | SEQ | ID 1 | 10: 7 | 714: | | | | | | | |
| | | | (i) 5 | (. (: | A) L B) T | ENGTI YPE : | H: 5 ami | 2 am no a | | | 5 | | | | | |
| 60 | | | (xi) | | | OPOLA E DES | | | ear V: SE | EQ II | NO: | : 714 | 1: | | | |

| | Met Ile 1 | Lys | Asp | Lys 5 | Gly | Arg | Ala | Arg | Thr 10 | Ala | Leu | Thr | Ser | Ser 15 | Gln |
|----|---------------|-----------|--------------|----------------------|----------------------|---------------------|--------------------------------------|--------------------|-----------|-----------|-----------|-----------|-------------|-----------|-----------|
| 5 | Pro Ala | His | Leu 20 | Cys | Pro | Glu | Asn | Pro 25 | Leu | Leu | His | Leu | Lyn 30 | Ala | Ala |
| 10 | Val Lyc | Glu 35 | Lys | Lys | Arg | Asn | Lys 40 | Lys | Lys | Lys | Thr | Ile 45 | Gly | Ser | Pro |
| | Lys Arg 50 | He | Gln | | | | | | | | | | | | |
| 15 | (2) INF | ORMA' | TION | FOR | SEQ | ID 1 | 10: T | /15 | | | | | | | |
| 20 | | | (| A) L B) T D) T | ENGT YPE: CPOL | H: 1 ami OGY: | ERIS' 00 a no a lin PTIC | mino cid ear | acı | | : 71 | 5 : | | | |
| 25 | Lys Arg l | Ile | Gln | Ser 5 | Pro | Leu | Asn | Asn | Lys 10 | Leu | Leu | Asn | Ser | Pro 15 | Ala |
| | Lys Thr | Leu | Pro 20 | Gly | Ala | Cys | Gly | Ser 25 | Pro | Gln | Lys | Leni | I 1+: 30 | Asp | Gly |
| 30 | Phe Leu | Lys 35 | His | Glu | Gly | Pro | Pro 40 | Ala | Glu | Lys | Pro | Leu 45 | Glu | Glu | Leu |
| 35 | Ser Ala 50 | | Thr | Ser | Gly | Val 55 | Pro | Gly | Leu | Ser | Ser 60 | Leu | Sln | Ser | Asp |
| | Pro Ala 65 | . Gly | Cys | Val | Arg 70 | Pro | F'r o | Ala | Pro | Asn 75 | Leu | Ala | Gly | Ala | Val 80 |
| 40 | Glu Phe | : Asn | Asp | Val 85 | Lys | Thr | Leu | Leu | Arg 90 | Glu | Trp | Ile | Thr | Thr 95 | Ile |
| | Ser Asp |) Pro | Met 100 | | | | | | | | | | | | |
| 45 | (2) IMF | 'ORMA | ncit | FOR | SEQ | ID | NO: | 716: | | | | | | | |
| 50 | | (i) | (| A) L B) T | ENGT TYPE : | TH: 7 | ERIS 4 am no a lir | nino cid | | ls | | | | | |
| 60 | tyw Ind | žen. | 1 em; 2 h | | 31% | •.*1 | lay a | Amp 25 | | .i. | : y · | . + 11 | Au j | 1. | 77.1 |

| | Ile | Lys | Tyr 35 | Met | Lys | Arg | L∈u | Met 40 | | Gln | Ser | Val | Glu 45 | Jer | Val | Trp | | |
|----|-----------|-----------|------------|-------------|----------------------|----------------------|-----------------------------|-----------------------------|------------------------------|-----------|-----|-----------|-----------|-----|-----------|-----|--|--|
| 5 | Asn | Met 50 | Ala | Phe | Asp | Phe | Ile 55 | Leu | Asp | Asn | Val | Gln 60 | Val | Val | Leu | Gln | | |
| | Gln 65 | Thr | Tyr | Gly | Ser | Thr 70 | Leu | Lys | Val | Thr | | | | | | | | |
| 10 | (2) | TAIT | DD 8 8 8 6 | DT = 11 | FOD | ar. | *5 | | 315 | | | | | | | | | |
| 15 | (2) | | (i) | (| ENCE A) L B) T | CHAI ENGT YPE: | RACT H: 1 ami OGY: | ERIS 8 am no a lin | TICS lino lcid lear | acid | | : 71 | 7: | | | | | |
| 20 | Phe 1 | | His | Asp | Cys 5 | Lys | Phe | Pro | Glu | Ala 10 | Ser | Pro | Ala | Met | Asn 15 | Суѕ | | |
| 25 | Glu | Pro | | | | | | | | | | | | | | | | |
| | (2) | INF | ORMA! | PICN | FOR | SEQ | ID : | NO: | 718: | | | | | | | | | |
| 30 | | | | (| A) L E) T D) T | ENGT YPE: OPOL | H: 1 ami OGY: | 8 am no a lin | nino cid ear | acid | | | | | | | | |
| 35 | Phe 1 | | | SEQ! Asp | | | | | | | | | | Met | Asn 15 | Cys | | |
| 40 | | Pro | | | | | | | | 10 | | | | | 1.9 | | | |
| 45 | (2) | INF | ORMA! | ricn | FOR | SEQ | ID : | NC): | 719: | | | | | | | | | |
| | | | (i) | (| A) L B) T | | H: 2 ami | 7 ал .no а | uino cid | : acid | s | | | | | | | |
| 50 | | | | SEQ | UENC: | E DE: | SCRI | PTIO | N: S | _ | | | | | | | | |
| | Pro 1 | Gln | Pro | Ser | Asn 5 | Phe | Pro | Thr | Thr | Val 10 | Arg | Asn | Leu | Pro | Tyr 15 | Ser | | |
| 55 | Gly | Ala | Gly | Ala 20 | Gln | Pro | Pro | Pro | Ser 25 | Asn | Cys | | | | | | | |

60 (2) INFORMATION FOR SEQ ID NO: 720:

| 5 | | | | (| A) L B) T D) T | ENGT YPE: OPCL | H: 1 ami OGY: | 34 a no a lin | mino cid ear | aci | | : 72 | J: | | | |
|----|-----------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|--------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|
| 10 | Met 1 | Ala | Ser | Ser | Val 5 | Pro | Ala | aly | Gly | His 10 | Thr | Ara | Ala | Gly | Gly If | Ile |
| 10 | Phe | Leu | Ile | Gly 20 | Lys | Leu | qzA | Leti | Glu 25 | Ala | Ser | Leu | Phe | Dyu 30 | Ser | Phe |
| 15 | Gln | Trp | Leu 35 | Pro | Phe | Val | Leu | Arg 40 | Lys | Lys | Cys | Asn | Phe 45 | Pho | thya. | Trp |
| | Asp | Ser 50 | Ser | Ala | His | 3er | Leu 55 | Pro | Leu | His | Pro | Leu 60 | Ser | Ala | Ser | Cys |
| 20 | Ser 65 | Ala | Pro | Ala | Cys | His 70 | Ala | Ser | Asp | Thr | His 75 | Leu | Leu | Tyr | Pro | Ser 80 |
| 25 | Thr | Arg | Ala | Leu | Cys 85 | Pro | Ser | Ile | Phe | Ala 90 | Trp | Leu | Val | Ala | Pro 95 | His |
| | Ser | Val | Phe | Arg 100 | Thr | Asn | Ala | Pro | Gly 105 | Pro | Thr | Pro | Ser | Ser 110 | Gln | Ser |
| 30 | Ser | Pro | Val 115 | Phe | Pro | Vāl | Phe | Pro 120 | Val | Ser | Phe | Met | Ala 125 | Leu | Ile | Val |
| 35 | Cys | Хаа 130 | Leu | Val | Cys | Суз | | | | | | | | | | |
| 33 | (2) | INF | ORMA' | TION | FOF. | SEQ | IĎ I | V: ′ | 721: | | | | | | | |
| 40 | | | | (| A) L B) T D) T | ENGT YPE: OPOL | H: 7 ami OGY: | l am no a lin | ino cid ear | acid | | : 72 | l: | | | |
| 45 | Met 1 | Ala | Ser | Ser | Val | Pro | Ala | Gly | Gly | His 10 | Thr | Arg | Ala | ў. ў | Gly 15 | Ile |
| 50 | Phe | Leu | Ile | Gly 20 | Lys | Leu | Asp | Leu | Glu 25 | Ala | Ser | Leu | Phe | Lys 30 | Ser | Phe |
| 30 | Gln | Trp | Leu 35 | Pro | Phe | Val | Leu | Arg 40 | Lys | Lys | Cys | Asn | Fhe 45 | Phy | Gya | Trp |
| | ; ; ; | `; | | 4 | | 11. y | | | | | | | | | | |

No. of the A.

| | (2) | INF | O'RMA' | rion | FOR | SEQ | II) | MO: 1 | 722: | | | | | | | |
|----|-----------|------------|------------|------------|----------------------|----------------------|---------------------|---------------------|--------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|
| 5 | | | | (| A) L B) T D) T | ENGT YPE: CPCL | H: 4 ami OGY: | 6 am no a lin | ino cid ear | acid | | : 72: | 2 : | | | |
| 10 | Phe 1 | Ala | Trp | Leu | Val 5 | εlA | Pro | His | Ser | Val 10 | Phe | Arg | Thr | Asn | Ala 15 | Pro |
| 15 | Gly | Pro | Thr | Pro 20 | Ser | 3er | Gln | Ser | Ser 25 | Pro | Val | Phe | Pro | Val 30 | Phe | Pro |
| | Val | Ser | Phe 35 | Met | Ala | Leu | Ile | Val 40 | Oys | Kaa | Leu | Val | Суз 45 | Суз | | |
| 20 | (2) | INFO | ORMAT | ricn | FOR | SEQ | ID I | vo: 7 | 723: | | | | | | | |
| 25 | | | | (| A) L E) T L) T | ENGT YPE: CPCL | H: 1 ami OGY: | 34 a no a lin | mino cid ear | aci | | : 72] | 3 : | | | |
| 30 | Met 1 | Ala | Ser | Ser | Val 5 | Pro | Ala | Gly | Gly | His 10 | Thr | Arg | Ala | Gly | Gly 15 | Ile |
| | ₽he | Leu | Ile | G17 20 | 578 | Leu | Asp | Leu | G1u 25 | Ala | Ser | Leu | Phe | Lys 30 | Ser | Phe |
| 35 | Gln | Trp | Leu 35 | Pro | Phe | Val | Leu | Arg 40 | Lys | Lys | Cys | Asn | Phe 45 | Phe | Cys | Trp |
| 40 | qsA | Ser 50 | Ser | Ala | His | Ser | Leu 55 | Pro | Leu | His | Pro | Leu 60 | Ser | Ala | Ser | Cys |
| | Ser 65 | Ala | Pro | Ala | Суs | His 70 | Ala | Ser | Asp | Thr | His 75 | Leu | Leu | Τγτ | Pro | Ser 80 |
| 45 | Thr | Arg | Ala | Leu | Cys 35 | Pro | Ser | Ile | Phe | Ala 90 | Trp | Leu | Val | Ala | Pro 95 | His |
| | Ser | Val | Phe | Arg 100 | Thr | Asn | Ala | Pro | Gly 105 | Pro | Thr | Pro | Ser | Ser 110 | Gln | Ser |
| 50 | Ser | Pro | Val 115 | Phe | Pro | 7al | Phe | Pro 120 | Val | Ser | Phe | Met | Ala 125 | Leu | Ile | Val |
| 55 | Cys | Xaa 130 | Leu | Val | Суs | Суз | | | | | | | | | | |
| | (2) | INF | DRMAT | ricn | FOR | SEQ | ID : | NO: 7 | 724: | | | | | | | |
| 60 | | | (i) | SEQUI | ENCE | CHA | RACT | ERIS' | rīcs | : | | | | | | |

| | | | | | | ENGT YPE: | | | | eaci | ds | | | | | |
|----|------------|------------|------------|------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | | | (xi) |) SEÇ | | OPOL E DE | | | | EÇ I | D NO | : 72 | 4 : | | | |
| , | Met 1 | Ala | Met | Glu | Gly S | Tyr | Trp | Arg | Phe | Leu 10 | Ala | Leu | Leu | Gly | Ser 15 | Ala |
| 10 | Leu | Leu | Val | Gly 20 | Phe | Leu | Ser | Val | 11e 25 | Phe | Ala | Leu | Val | Тгр 30 | Val | Leu |
| | His | Tyr | Arg 35 | Glu | Gly | Leu | Gly | Trp 40 | App | Gly | Ser | Ala | Leu 45 | Clu | Fhe | Asn |
| 15 | Trp | His 50 | Pro | Val | Leu | Met | Val 55 | Thr | Gly | Pho | Val | Phe 60 | Ile | Gln | Gly | He |
| 20 | Ala 65 | Ile | Ile | Va1 | Tyr | Arg /0 | Leu | Pro | Trp | Thr | Trp 75 | Lys | Cys | Ser | Lys | Leu 30 |
| | Leu | Met | Lys | Ser | Ile 85 | His | Ala | Gly | Leu | Asn 90 | Ala | Val | Ala | Ala | Ile 98 | Leu |
| 25 | Ala | Ile | Ile | Ser 100 | Val | Val | Ala | Val | Phe 105 | Glu | Asn | His | Asn | Val 110 | Asn | Asn |
| | Ile | Ala | Asn 115 | Met | Гут | Ser | Lėu | His 120 | Ser | Trp | Val | Gly | Leu 125 | Ile | Ala | Val |
| 30 | Ile | Суs 130 | Tyr | Leu | Leu | Gln | Leu 135 | Leu | Ser | Gly | Phe | Ser 140 | Val | Phe | Leu | Leu |
| 35 | Pro 145 | Trp | Ala | Pro | Leu | Ser 150 | Leu | Arg | Ala | Phe | Leu 155 | Met | Pro | fle | His | Val 160 |
| | Tyr | Ser | Gly | Ile | Val 165 | Ile | Phe | Gly | Thr | Val 170 | Ile | Ala | Thr | Ala | Leu 175 | Met |
| 40 | Gly | Leu | Thr | Glu 180 | Lys | Leu | Ile | Phe | Ser 185 | Leu | Arg | Asp | Pro | Ala 190 | Tyr | Ser |
| | Thr | Pho | Pro 195 | Pro | Glu | Gly | V.:1 | Phe 200 | Val | Aon | Thr | Leu | Gly 205 | I⊕u | Leu | Ile |
| 45 | Leu | Val 210 | Phe | G!y | Ala | Leu | Ile Ilb | Phe | Tip | 11 | Val | Thr 220 | Arg | Pro | Gln | Tin |
| 50 | Lys 225 | Arg | Pro | Lys | Glu | Pro 230 | Asn | Ser | Thr | Ile | Leu 235 | His | Pro | Asn | Glγ | Gly 240 |
| | Thr | Glu | Gln | Gly | Ala 245 | Arg | Sty | Ser | Mest | Pro 250 | Ala | Туг | Ser | Gly | Asn 255 | Asn |

er for every construction of the second construc

| | (2) | INF | ORMA | TION | FOR | SEQ | ID | NO : | 725: | | | | | | | | | |
|----|------------|------------|------------|------------|-------------------------|----------------------|-----------------------|-----------------------|--------------|------------------|------------|------------|------------|------------|------------|------------|--|---|
| 5 | | | | (| (A) I (B) T (D) T | ENGT YPE: OPOL | CH: 4 ami LOGY: | 13 am .no a lir | ncid near | e acid | |): 72 | 5 : | | | | | |
| 10 | Pro 1 | | Arg | Ala | Gly 5 | | Ser | Pro | Gly | Leu 10 | Ser | Leu | Gln | Leu | Pro 15 | Ala | | |
| 15 | Glu | Pro | Gly | His 20 | Pro | Ala | Gly | Asn | Leu 25 | Ala | Pro | Leu | Thr | Ser 30 | | Pro | | |
| | Gln | Pro | Leu 35 | Cys | Arg | Ile | Pro | Ala 40 | Val | Pro | Gly | | | | | | | |
| 20 | (2) | INF | ofma' | rion | FOR | SEQ | ID | NŌ: | 726: | | | | | | | | | |
| 25 | | | | ((| A) L B) T D) T | ENGT YPE: OPOL | H: 4 ami CGY: | 24 a no a lin | cid ear | : aci EQ I | | : 72 | б: | | | | | |
| 30 | Met 1 | Lys | Leu | Leu | Gly 5 | Glu | Cys | Ser | Ser | Ser 10 | Ile | Asp | Ser | Val | Lys 15 | Arg | | |
| | Leu | Glu | His | Lys 20 | Leu | Lys | Glu | Glu | Glu 25 | Glu | Ser | Leu | Pro | Gly 30 | Phe | Val | | |
| 35 | Asn | Leu | His 35 | Ser | Thr | Glu | Thr | Gln 40 | Thr | Ala | Gly | Val | Ile 45 | Asp | Arg | Trp | | |
| 40 | Glu | Leu 50 | Leu | Gln | Ala | Gln | Ala 55 | Leu | Ser | Lys | Glu | Leu 60 | Arg | Met | Lys | Gln | | |
| | Asn 65 | Leu | Gln | Lys | Lib | Gln 70 | Gln | Phe | Asn | Ser | Asp 75 | Leu | Asn | Ser | Ile | Trp 80 | | |
| 45 | Ala | Trp | Leu | Gly | Asp 85 | Thr | Glu | Glu | Glu | Leu 90 | Glu | Gln | Leu | Gln | Arg 95 | Leu | | |
| | Glu | Leu | Ser | Thr 100 | Asp | Ile | Gln | Thr | Ile 105 | Glu | Leu | Gln | Ile | Lys 110 | Lys | Leu | | |
| 50 | Lys | Glu | Leu 115 | Gln | Lys | Ala | Val | Asp 120 | His | Arg | Lys | Ala | Ile 125 | Ile | Leu | Ser | | |
| 55 | Ile | Asn 130 | Leu | Cys | Ser | Pro | Glu 135 | Phe | Thr | Gln | Ala | Asp 140 | Ser | Lys | Glu | Ser | | |
| | Arg 145 | Asp | Leu | Gln | Asp | Arg 150 | Leu | Хаа | Gln | Met | Asn 155 | Gly | Arg | Trp | Asp | Arg 160 | | • |
| 60 | Val | Cys | Ser | Leu | Leu 165 | Glu | Glu | Trp | Arg | Gly 170 | Leu | Leu | Gln | Asp | Ala 175 | Leu | | |

| | Met | Gln | Cys | Gln 180 | Gly | Phe | His | Glu | Met 185 | | His | Gly | ' Lei | 190 | | n Me |
|----|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5 | Leu | Glu | Asn 195 | Ile | Asp | Arg | Arg | Lys 200 | | Glu | Ile | val | Pro 205 |) Ile | Asp |) Se |
| 10 | Asn | Leu 210 | Asp | Aļa | Glu | Ile | Leu 215 | | Asp | His | His | Lys 220 | | ı Leu | Met | Gl |
| | 11e 225 | Lys | His | Glu | Leu | Leu 230 | | Ser | Gln | Leu | Arg 235 | | Ala | Ser | Leu | G1: 24: |
| 15 | Asp | Met | Ser | Cys | Gln 245 | Leu | Leu | Val | Asn | Ala 250 | Glu | Gly | Thr | Asp | Cys 255 | |
| | Glu | Ala | Lys | Glu 260 | Lys | Val | His | Val | Ile 265 | Gly | Asn | Arg | Leu | Lys 270 | Leu | Lei |
| 20 | Leu | Lys | Glu 275 | Val | Ser | Arg | His | Ile 280 | Lys | Glu | Leu | Glu | Lys 285 | Leu | Leu | Ası |
| 25 | Val | Ser 290 | Ser | Ser | Gln | Gln | Asp 295 | Leu | Ser | Ser | Trp | Ser 300 | Ser | Ala | Asp | Glu |
| | Leu 305 | Asp | Thr | Ser | Gly | Ser 310 | Val | Ser | Pro | Xaa | Ser 315 | Gly | Arg | Ser | Thr | Pro 320 |
| 30 | Asn | Arg | Gln | Lys | Thr 325 | Pro | Arg | Gly | Lys | Суs 330 | Ser | Leu | Ser | Gln | Pro 335 | Gly |
| | Pro | Ser | Val | Ser 340 | Ser | Pro | His | Ser | Arg 345 | Ser | Thr | Lys | Gly | Gly 350 | Ser | Asp |
| 35 | Ser | Ser | Leu 355 | Ser | Glu | Pro | Xaa | Pro 360 | Gly | Arg | Ser | Gly | Arg 365 | Gly | Phe | Leu |
| 40 | Phe - | Arg 370 | Val | Leu | Arg | Ala | Ala 375 | Leu | Pro | Leu | Gln | Leu 380 | Leu | Leu | Leu | Leu |
| | Leu 385 | Ile | Gly | Leu | Ala | Cys 390 | Leu | Val | Pro | Met | Ser 395 | Glu | Glu | Asp | Тут | Ser 400 |
| 45 | Суз | Ala | Leu | | Asn 405 | Asn | Phe | Ala | | Ser 410 | Phe | His | Pro | Met | Leu 415 | Arg |
| | Tyr | Thr | | Gly 420 | Pró | Pro | Pro | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | |
| | (2) | INFO | RMAT | ION : | FOR : | SEQ | ID N | 0: 7 | 27 : | | | | | | | |
| 55 | | (| i) S | | | | ACTE | | | acid | ls. | | | | | |

| | 1 | | | | 5 | | | | | 10 | | | | | 15 | |
|----|-----------|------------|------------|------------|--------------|-----------|------------|---------------|------------|-----------|-----------|-----------|------------|------------|-----------|-----------|
| 5 | Leu | Glu | His | Lys 20 | Leu | Lys | Glu | Glu | Glu 25 | | Ser | Leu | Pro | Gly 30 | Phe | Val |
| 3 | Asn | Leu | His 35 | Ser | Thr | Glu | Thr | Gln 40 | Thr | Ala | Gly | Val | Ile 45 | Asp | Arg | Trp |
| 10 | Glu | Leu 50 | Leu | Gln | Ala | Gln | Ala 55 | Leu | Ser | Lys | Glu | Leu 60 | Arg | Met | Lys | Gln |
| | Asn 65 | Leu | Gln | Lys | Trp | Gln 70 | Gln | Phe | Asn | Ser | Asp 75 | Leu | Asn | Ser | Ile | Trp 80 |
| 15 | Ala | Trp | Leu | Gly | Asp 85 | Thr | Glu | Glu | Glu | Leu 90 | Glu | Gln | Leu | Gln | Arg 95 | Leu |
| 20 | Glu | Leu | Ser | Thr 100 | Asp | Ile | Gln | Thr | Ile 105 | Glu | Leu | Gln | Ile | Lys 110 | | |
| 20 | | | | | | | | | | | | | | | | |
| 25 | (2) | INFO | ORMAT | rion | FOR | SEQ | ID 1 | 1 0: 1 | 728: | | | | | | | |
| 25 | | | (i) : | | | ENGT | н: 1 | 36 a | mino | : aci | ds | | | | | |
| 30 | | | (xi) | SEQI | D) T JENC | | | | | EQ I | D NO | : 72 | B: | | | |
| | Lys 1 | Leu | Lys | Glu | Leu 5 | Gln | Lys | Ala | Val | Asp 10 | His | Arg | Lys | Ala | Ile 15 | Ile |
| 35 | Leu | Ser | Ile | Asn 20 | Leu | Cys | Ser | Pro | Glu 25 | Phe | Thr | Gln | Ala | Asp 30 | Ser | Lys |
| • | Glu | Ser | Arg 35 | Asp | Leu | Gln | Asp | Arg 40 | Leu | Xaa | Gln | Met | Asn 45 | Gly | Arg | Trp |
| 40 | Asp | Arg 50 | Val | Cys | Ser | Leu | Leu 55 | Glu | Glu | Trp | Arg | Gly 60 | Leu | Leu | Gln | Asp |
| 45 | Ala 65 | Leu | Met | Gln | Cys | Gln 70 | Gly | Phe | His | Glu | Met 75 | Ser | His | Gly | Leu | Leu 80 |
| ,5 | Leu | Met | Leu | Glu | | Ile | Asp | Arg | Arg | Lys 90 | Asn | Glu | Ile | Val | Pro 95 | Ile |
| 50 | Asp | Ser | Asn | Leu 100 | Asp | Ala | Glu | Ile | Leu 105 | Gln | Asp | His | His | Lys 110 | Gln | Leu |
| | Met. | Gln | Ile 115 | Lys | His | Glu | Leu | Leu 120 | Glu | Ser | Gln | Leu | Arg 125 | Val | Ala | Ser |
| 55 | Leu | Gln 130 | Asp | Met | Ser | Суѕ | Gln 135 | Leu | | | | | | | | |

| 5 | | | | (| A) L B) T D) T | ENGT: YFE: CPOL | H: 1 ami: OSY: | 05 ag no ao lin | mino cid ear | aci | | : 72: | 9 : | | | |
|----|-----------|-----------|-----------|------------|----------------------|-----------------------|----------------------|-----------------------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 10 | Gln 1 | Asp | Met | Ser | Cys 5 | Gln | Leu | Leu | Val | Asn 10 | Ala | Glu | Gly | Thr | Asp 15 | Суз |
| | Leu | Glu | Ala | Lys 20 | Glu | Lys | Val | His | Val 25 | Ile | Gly | Asn | Arg | Leu 30 | Lys | Leu |
| 15 | Leu | Leu | Lys 35 | Glu | Val | Ser | Arg | His 40 | Ile | Lys | Glu | Leu | Glu 45 | Lys | Leu | Leu |
| | Asp | Val 50 | Ser | Ser | Ser | Gln | Gln 55 | Asp | Leu | Ser | Ser | Trp 60 | Ser | Ser | Ala | Asp |
| 20 | 31u 65 | Leu | Asp | Thr | Ser | 51y 70 | Ser | Va1 | Ser | Pro | Xaa 75 | Ser | Gly | Arg | Ser | Thr 80 |
| 25 | Pro | Asn | Arg | Gln | Lys 85 | Thr | Pro | Arg | Gly | Lys 90 | Cys | Ser | Leu | Ser | Gln 95 | Pro |
| | Gly | Pro | Ser | Val 100 | Ser | Ser | Pro | His | Ser 105 | | | | | | | |
| 30 | (2) | INF | ORMA' | NCIT | FOR | SEQ | ID I | NO: 1 | 730: | | | | | | | |
| 35 | | | | (| A) I B) T D) T | ENGT YPE: YPOL | H: 7 ami CGY: | 3 am no a lin | uno cid ear | acid | | : 73 | 0: | | | |
| 40 | Asp 1 | Ser | Ser | Leu | Ser 5 | | Pro | Хаа | Pro | Gly 10 | Arg | Ser | Gly | Arg | Gly 15 | Phe |
| | Leu | Phe | Arg | Val 20 | I.eu | Arg | Ala | Ala | Leu 25 | Pro | Leu | Gln | Leu | Leu 30 | Leu | Leu |
| 45 | Leu | Leu | Ile 35 | Gly | Leu | Ala | Oys | Leu 40 | Val | Pro | Met | Ser | Glu 45 | Glu | Asp | Tyr |
| 50 | Ser | Суз 50 | | L∉u | Ser | Asn | Asn 55 | Phe | Ala | Arg | Ser | Phe 60 | His | Pro | Met | Let |
| 50 | Arg 65 | | Thr | Aan | Gly | Fro 70 | Pro | Pro | Leu | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 60 | | | | | A) I | .E21671 | H: 5 | TELLO Solution | nirmo | | ł.,; | | | | | |

| | | | (xi) | | | IOPOI | | | | EQ I | D M |): 7° | :1: | | | | |
|----|------------|------------|------------|------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|---|
| | Mat | Lvc | | | | | | | | | | | | | | | |
| 5 | 1 | | neu | . Беч | 5 | | .aTA | ASII | ıyı | Leu 10 | | . Pro | ser | His | Ser 15 | Glu | |
| | Ser | Ser | Arg | Arg 20 | Суз | Cys | Leu | Leu | Cys 25 | Phe | Тут | Pro | Leu | . Суs 30 | | Glu | |
| 10 | Ile | Asn | Phe 35 | | Met | Lys | Val | Phe 40 | Leu | Ser | Met | Pro | Phe 45 | | Val | Leu | |
| 15 | Phe | Gln 50 | Ser | Leu | lle | Gln | Glu 55 | _ | | | | | | | | | |
| | (2) | INF | ORMA: | TION | FOR | SEQ | ID : | NO : | 732: | | | | | | | | |
| 20 | | | (i) | (| A) L | | H: 2 | 271 a | mino | : aci | ds | | | | | | |
| | | | /~i1 | (| D) T | YPE: OPOL | .CGY : | lin | ear | FO 1 | D. MO | 72 | 2 | | | | |
| 25 | Ara | Tla | | | | | | | | EQ I | | | | · | | | |
| | 1 | 110 | Ded | Disd | 5 | T) 2 | Tyt | 261 | Ala | Asn 10 | GIU | GIU | ASII | ьўs | ryr 15 | Asp | |
| 30 | Tyr | Leu | Pro | Thr 20 | Thr | Val | Asn | Val | Cys 25 | Ser | Glu | Leu | Val | Lys 30 | Leu | Val | |
| | Phe | Cys | Val 35 | Leu | Val | Ser | Phe | Cys 40 | Val | Ile | Lys | Lys | Asp 45 | His | Gln | Ser | |
| 35 | Arg | Asn 50 | Leu | Lys | Tyr | Ala | Ser 55 | Trp | Lys | Glu | Phe | Ser 60 | Asp | Phe | Met | Lys | |
| 40 | Trp 65 | Ser | Ile | Pro | Ala | Phe 70 | Leu | Tyr | Phe | Leu | Asp 75 | Asn | Leu | Ile | Val | Phe 80 | |
| 70 | Tyr | Val | Leu | Ser | Tyr 85 | Leu | Gln | Pro | Ala | Met 90 | Ala | Val | Ile | Phe | Ser 95 | Asn | |
| 45 | Phe | Ser | Ile | Ile 100 | Thr | Thr | Ala | Leu | Leu 105 | Phe | Arg | Ile | Val | Leu 110 | Lys | Xaa | |
| | Arg | Leu | Asn 115 | Trp | Ile | Gln | Trp | Ala 120 | Ser | Leu | Leu | Thr | Leu 125 | Phe | Leu | Ser | |
| 50 | Ile | Val 130 | Ala | Leu | Thr | Ala | Gly 135 | Thr | Lys | Thr | Leu | Gln 140 | His | Asn | Leu | Ala | |
| 55 | Gly 145 | Arg | Gly | Phe | His | His 150 | Asp | Ala | Phe | Phe | Ser 155 | Pro | Ser | Asn | Ser | Cys 160 | |
| 33 | Leu | Leu | Phe | Arg | Asn 165 | Glu | Суз | Pro | Arg | Lys 170 | Asp | Asn | Cys | Thr | Ala 175 | Lys | - |
| 60 | Glu | Trp | Thr | Phe 180 | Pro | Glu | Ala | Lys | Trp 185 | Asn | Thr | Thr | Ala | Arg 190 | Val | Phe | |

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ID
     AI684707
                 standard; RNA; EST; 375 BP.
XX
AC
     AI684707;
                      XP-002174857
XX
SV
      AI684707.1
XX
     28-MAY-1999 (Rel. 59, Created)
09-MAR-2000 (Rel. 63, Last updated, Version 3)
DT
DT
XX
     wa85b10.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2302939 3',
DE
DE
     mRNA sequence.
XX
KW
     EST.
XX
OS
     Homo sapiens (human)
OC
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia;
OC
     Eutheria; Primates; Catarrhini; Hominidae; Homo.
XX
RN
      [1]
RP
     1-375
     NCI-CGAP;
RA
     "National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor
RT
RT
     Gene Index http://www.ncbi.nlm.nih.gov/ncicqap";
RL
     Unpublished.
XX
DR
     RZPD; IMAGp9981205706; IMAGp9981205706.
XX
     Contact. Robert Strausberg, Ph.D.
CC
CC
     Tel: (301) 496-1550
CC
     Email: Robert Strausberg@nih.gov
     This clone is available royalty-free through LLNL; contact the
CC
CC
     IMAGE Consortium (info@image.llnl.gov) for further information.
CC
     Insert Length: 453
                          Std Error: 0.00
CC
     Seq primer: -40UP from Gibco.
XX
                      Location/Qualifiers
FH
     Key
FH
FT
     source
                      1..375
FT
                      /db xref="taxon:9606"
                      /db xref="ESTLIB:1042"
FT
                      /db xref="RZPD:IMAGp9981205706"
FT
FT
                      /note="Organ: pooled; Vector: pT7T3D-Pac (Pharmacia) with a
FT
                      modified polylinker; Site_1: Not I; Site_2: Eco RI; Equal
FT
                      amounts of plasmid DNA from three normalized libraries
FT
                      (fetal lung NbHL19W, testis NHT, and B-cell NCI_CGAP_GCB1)
                      were mixed, and ss circles were made in vitro. Following
FT
FT
                      HAP purification, this DNA was used as tracer in a
FT
                      subtractive hybridization reaction. The driver was
                      PCR-amplified cDNAs from pools of 5,000 clones made from
FT
                      the same 3 libraries. The pools consisted of I.M.A.G.E. clones 297480-302087, 682632-687239, 726408-728711, and
FT
FT
FΤ
                      729096-731399. Subtraction by Bento Soares and M. Fatima
FT
                      Bonaldo.
                      /organism="Homo sapiens"
FT
FT
                      /clone="IMAGE:2302939"
                      /clone lib="Soares_NFL_T_GBC_S1"
FT
FT
                      /lab host="DH10B"
XX
     Sequence 375 BP; 82 A; 93 C; 124 G; 76 T; 0 other;
SO
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     ataaaaacta caaaaatatc tggctctcga gtgtgggcag ctcagtgtgg gacctggtct
                                                                                  120
     gagtcatgae ttgggetgee etgeaggeea gaggeeeggg agettteegg ceaeteecea
                                                                                  180
     gagaggteeg tggegetgag ggggtgagga agtgeettgg etgetteeae agegtgaagg
                                                                                  240
     ccaaggetga ggtggagetg ggetggagtg gttecagaga aggetteate gaggeeette
                                                                                  300
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                                                                                  360
```